

American College of Preventive Medicine physicians dedicated to prevention



Speaker self-introduction and welcome/thank you to participants.

ACPM Standardized Acceptance Process (SAP)

The following presentation has been made accessible to participating Applicants and Program Directors for the ACPM SAP 2021-2022 Preventive Medicine Application Cycle. In order to ensure transparency, this resource can be used as a visual illustration/walk-through of the logic, process and rules of the ACPM SAP algorithm designed for the Program/Applicant Pairing Process. The numbers (and at times limits) placed on rank order lists are purely for purposes of simplification, and do not imply or create actual limitations that might apply to programs and applicants in the SAP process. Those number limitations (much higher) are built into the SAP website, as in past years.



This illustration is intended to walk applicants and program directors (and program coordinators) through the logic, process and rules of the ACPM-SAP pairing algorithm. The numbers (and at times limits) placed on rank order lists are purely for purposes of simplification, and do not imply or create actual limitations that might apply to programs and applicants in the SAP process. Those number limitations (much higher) are built into the SAP website, as in past years.

Assumptions For Purposes of This Illustration

- 1. We will assume that there are six (6) residency programs, with a total of twelve (12) residency training slots, and sixteen (16) applicants. So by definition, four (4) applicants will not be paired/matched with programs during the SAP.
- 2. We will also assume that all applicants interview with all programs, so that all applicants have the ability to list all programs on their rank lists, and vice versa.



First, We will assume that there are six (6) residency programs, with a total of twelve (12) residency training slots, and sixteen (16) applicants. So by definition, four (4) applicants will not be paired/matched with programs during the SAP illustration. We will also assume that all applicants interview with all programs, so that all applicants have the ability to list all programs on their rank lists, and vice versa.

3. There are six (6) residency programs, and each has the number of residency training slots in brackets [] to fill during the active SAP. The programs are:

```
RED [3]
ORANGE [2]
GREEN [1]
BLUE [3]
BROWN [2]
VIOLET [1]
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As noted here, there are a total of twelve (12) positions available in the current SAP.



There are six (6) residency programs, and each has the number of residency training slots in brackets [] to fill during the active SAP. The programs are: RED [3], ORANGE [2], GREEN [1], BLUE [3], BROWN [2], and VIOLET [1]... As noted here, there are a total of twelve (12) positions available in the current SAP.

4. There are sixteen (16) applicants:

Ace Diamonds; King Diamonds; Queen Diamonds; Jack Diamonds; Ace Spades; King Spades; Queen Spades; Jack Spades; Ace Hearts; King Hearts; Queen Hearts; Jack Hearts; Ace Clubs; King Clubs; Queen Clubs; Jack Clubs.



There are sixteen (16) applicants: Ace Diamonds; King Diamonds; Queen Diamonds; Jack Diamonds; Ace Spades; King Spades; Queen Spades; Jack Spades; Ace Hearts; King Hearts; Queen Hearts; Jack Hearts; Ace Clubs; King Clubs; Queen Clubs; Jack Clubs.

5. For simplicity (not reflective of the actual SAP), we will assume that programs will rank no more than nine (9) applicants, and that applicants will rank all of the programs.



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6. We will assume that RED (3 slots) and GREEN (1 slot) are wildly popular programs, and all applicants place them high on their rank lists, so they will fill their slots quickly. Alternatively, BLUE (3 slots) and VIOLET (1 slot) are not very popular, and they are ranked lower by applicants, and they may have their slots fill more slowly for purposes of this SAP illustration. ORANGE (2 slots) and BROWN (2 slots), are of "average" popularity, and will be ranked in the middle by most/all of the applicants.

A C P M

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applicants.

- 7. We will assume that among the applicants: **Aces** are most competitive, and are listed at or near the top of all programs' rank lists; **Kings** and **Queens** are of average competitiveness, and ranked on all or most programs' rank lists, but not necessarily at the top; and **Jacks** are the least competitive, and are ranked by few, or no programs, and typically ranked lower. The **Jacks** will likely be left unpaired/unmatched for purposes of this illustration.
- 8. Other than **Aces** (intentionally "top-ranked") and **Jacks** (rarely ranked, or not ranked at all), the remaining **Kings** and **Queens** will be ranked randomly.



We will assume that among the applicants: Aces are most competitive, and are listed at or near the top of all programs' rank lists; Kings and Queens are of average competitiveness, and ranked on all or most programs' rank lists, but not necessarily at the top; and Jacks are the least competitive, and are ranked by few, or no programs, and typically lower. The Jacks will likely be left unpaired/unmatched for purposes of this illustration. Other than Aces (intentionally "top-ranked") and Jacks (rarely

ranked, or not ranked at all), the remaining Kings and Queens will be ranked randomly.

- 9. The illustrations uses a "stacked deck" with the applicants ordered **Aces** processed first, followed by **Kings**, **Queens** etc. This arrives at pairings/matches most quickly and efficiently. This is done purely to demonstrate that the algorithm pairs/matches applicants to programs, based on mutual preference.
- 10. With each step of this walk-through, we attempt to cross-reference the applicable section of the SAP Policy and Procedure, and illustrate what is happening to the various stacks of applicants and rank lists in "real time".



The illustrations uses a "stacked deck" with the applicants ordered Aces processed first, followed by Kings, Queens etc. This arrives at pairings/matches most quickly and efficiently. This is done purely to demonstrate that the algorithm pairs/matches applicants to programs, based on mutual preference. It would operate in the same manner, irrespective of the order in which the applicants are processed: "ranked"; alphabetical; random; date of birth, etc. There

would just be more tentative pairings. With each step of this walk-through, we attempt to cross-reference the applicable section of the SAP Policy and Procedure, and illustrate what is happening to the various stacks of applicants and rank lists in "real time".

RED [3] ORANGE [2] GREEN [1] BLUE [3] BROWN [2] VIOLET [1] Includes all participating programs and slots.

Step 1. "Master List" of all participating programs and slots.

RED [3]

ORANGE [2]

GREEN [1]

BLUE [3]

BROWN [2]

VIOLET [1]

A C P M

Step 2. "Alphabetical Program List" BLUE [3] BROWN [2] GREEN [1] ORANGE [2] RED [3] VIOLET [1]

Step 2.— "Alphabetical Program List"
BLUE [3]
BROWN [2]
GREEN [1]
ORANGE [2]
RED [3]
VIOLET [1]

Step 3. "Alphabetical Application List"

Ace Clubs (AC) Jack Clubs (JC)

Ace Diamonds (AD) Jack Diamonds (JD)

Ace Hearts (AH) Jack Hearts (JH)

Ace Spades (AS)

Jack Spades (JS)

King Clubs (KC)

Queen Clubs (QC)

King Diamonds (KD) Queen Diamonds (QD)

King Hearts (KH) Queen Hearts (QH)

King Spades (KS) Queen Spades (QS)



Step 3. — "Alphabetical Applicant List"

Ace Clubs (AC)

Ace Diamonds (AD)

Ace Hearts (AH)

Ace Spades (AS)

Jack Clubs (JC)

Jack Diamonds (JD)

Jack Hearts (JH)

Jack Spades (JS)

King Clubs (KC)

King Diamonds (KD)

King Hearts (KH)
King Spades (KS)
Queen Clubs (QC)
Queen Diamonds (QD)
Queen Hearts (QH)
Queen Spades (QS)

Ace Clubs (AC)	Ace Diamonds (AD)	Ace Hearts (AH)	Ace Spades (AS)
1-RED	1-GREEN	1-ORANGE	1-ORANGE
2-GREEN	2-RED	2-GREEN	2-GREEN
3-ORANGE	3-ORANGE	3-RED	3-RED
4-BROWN	4-BROWN	4-BROWN	4-BROWN
5-BLUE	5-BLUE	5-BLUE	5-BLUE
6-VIOLET	6-VIOLET	6-VIOLET	6-VIOLET

Step 4. — Individual Applicant Rank Order Lists (based on preferences noted above). These are the ACE's rank order lists.

ack Clubs (JC)	Jack Diamonds (JD)	Jack Hearts (JH)	Jack Spades (JS)
-ORANGE	1-GREEN	1-RED	1-ORANGE
2-BROWN	2-ORANGE	2-GREEN	2-RED
B-RED	3-BROWN	3-BLUE	3-GREEN
I-GREEN	4-RED	4-ORANGE	4-BROWN
5-BLUE	5-BLUE	5-BROWN	5-VIOLET
5-VIOLET	6-VIOLET	6-VIOLET	6-BLUE

Step 4. — These are the JACK's rank order lists.

(ing Clubs (KC)	King Diamonds (KD)	King Hearts (KH)	King Spade (KS)
-ORANGE	1-ORANGE	1-GREEN	1-RED
2-BROWN	2-BROWN	2-ORANGE	2-GREEN
B-RED	3-RED	3-BROWN	3-ORANGE
I-GREEN	4-GREEN	4-RED	4-BROWN
5-BLUE	5-BLUE	5-BLUE	5-BLUE
5-VIOLET	6-VIOLET	6-VIOLET	6-VIOLET

Step 4. — These are the KING's rank order lists.

1-BLUE 2-BROWN 3-RED 4-GREEN 5-ORANGE 6-VIOLET	2-BROWN 3-RED 4-GREEN 5-BLUE 6-VIOLET	2-ORANGE 3-BROWN 4-RED 5-BLUE 6-VIOLET
	2-BROWN 3-RED 4-GREEN 5-ORANGE	2-BROWN 3-RED 3-RED 4-GREEN 5-BLUE 5-ORANGE 6-VIOLET

Step 4. — These are the QUEEN's rank order lists.

Step 5. Specific Program Rank Order Lists

BLUE [T=3, P=0, R=3]	BROWN [T=2, P=0, R=2]	GREEN [T=1, P=0, R=1]
1- AC	1- AD	1- AD
2- AD	2- AC	2- AH
<u>3-AH</u>	3- AH	3- AC
4- AS	4- AS	4- AS
5- KC	5- KD	5- KH
6- QH	6- Q\$	6- QC
7- KD	7- KH	7- KS
8- KH	8- KS	8- QD
9- KS	9- QD	9- JC

Includes number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically (Step 6.).



Step 5. – Section 5 – Specific Program Rank Order Lists (based on preferences noted above) with number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically (Step 6.). These are the rank order lists for programs: BLUE, BROWN and GREEN.

Step 5. Specific Program Rank Order Lists Continued

ORANGE [T=2, P=0, R=2]	RED [T=3, P=0, R=3]	VIOLET [T=1, P=0, R=1]
1- AD	1- AC	1- AD
2- AH	2- AD	2- AC
3- AS	<u>3-AH</u>	3- AH
4- AC	4- AS	4- AS
5- K\$	5- QC	5- QD
6- QD	6- QH	6- Q\$
7- KC	7- KC	7- KD
8- QH	8- JC	8- JD
9-JH	9- QD	9- JS

Includes number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically (Step 6.).



Step 5. — These are the rank order lists for programs: ORANGE, RED, and VIOLET.

Step 7. Formation of Initial Stack

PAIRINGS:

STACKS: TENTATIVE FINAL PAIRINGS: PENDING: UNPAIRED:

INITIAL: AC

AD

ΑН

AS

KC

ΚD

KH

KS

In this first example, we will use an "easy/stacked deck" in which the applicants are listed from most competitive to least (thereby arriving at final pairings/matches most quickly/efficiently), but note that the algorithm works the same (i.e. results in the same final pairings) no matter what order the applicants are placed in for the Initial Stack.



Step 7. – Section 7 – We will form an Initial Stack. In this first example, we will use an "easy/stacked deck" in which the applicants are listed from most frequently ranked (by programs) to the least frequently ranked (thereby arriving at final pairings/matches most quickly/efficiently), but note that the algorithm works the same (i.e. results in the same final pairings) no matter what order the applicants are placed in for the Initial Stack (e.g. ranked/stacked, alphabetical, date of

birth, random etc.).

Step 7. Formation of Initial Stack Continued

STACKS: TENTATIVE FINAL PAIRINGS: PENDING: UNPAIRED: INITIAL. PAIRINGS:

INITIAL: QC

QD

QH

QS

JD JC

JH

JS

In this first example, we will use an "easy/stacked deck" in which the applicants are listed from most competitive to least (thereby arriving at final pairings/matches most quickly/efficiently), but note that the algorithm works the same (i.e. results in the same final pairings) no matter what order the applicants are placed in for the Initial Stack.

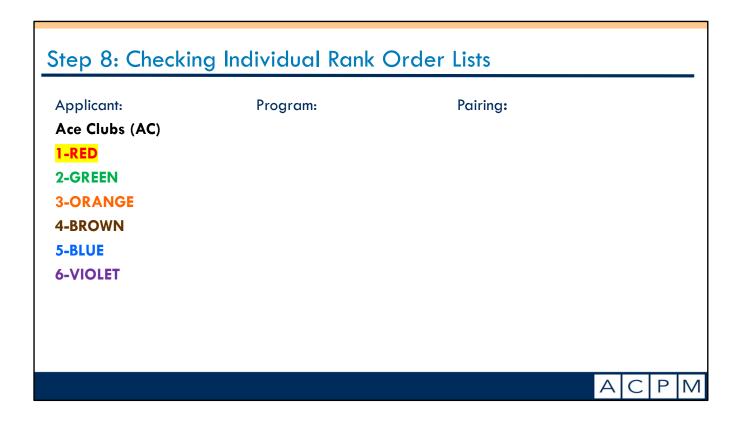


This slide shows the remainder of our easy/"stacked" deck of applicants.

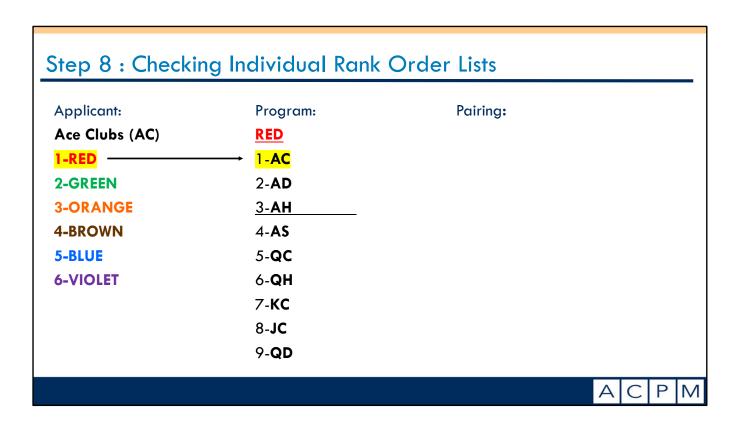
Step 8

Checking Individual Rank Order Lists

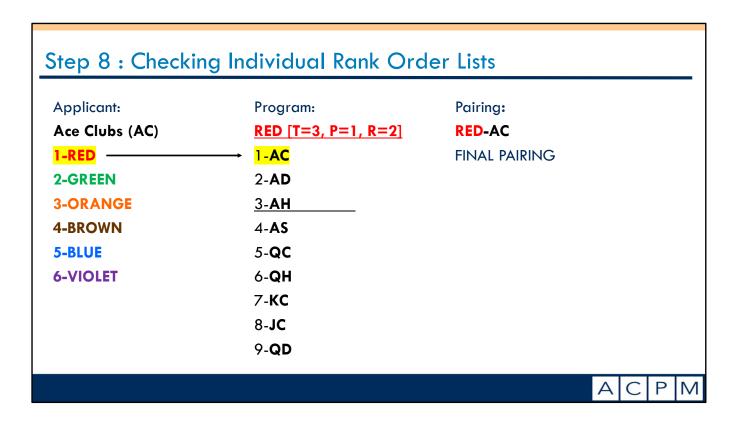
We will now begin checking the individua rank order lists of our initial stack of applicants.



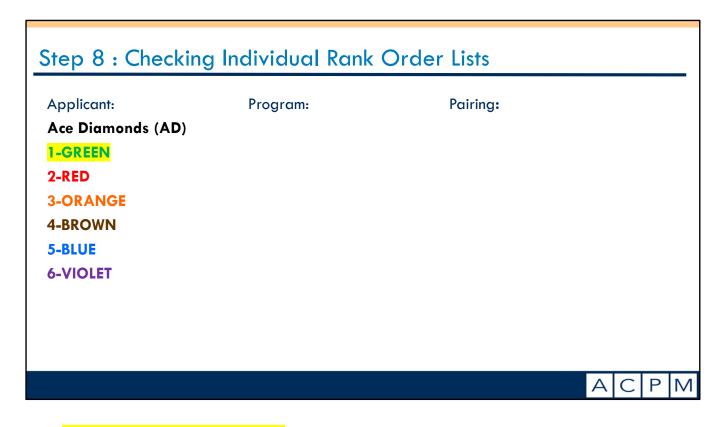
<u>Ace of Clubs</u> – Selects RED – AC is RED's first choice – pure first choice match – FINAL pairing.



<u>Ace of Clubs</u> – Selects RED – AC is RED's first choice – pure first choice match – FINAL pairing.



<u>Ace of Clubs</u> – Selects RED – AC is RED's first choice – pure first choice match – FINAL pairing.



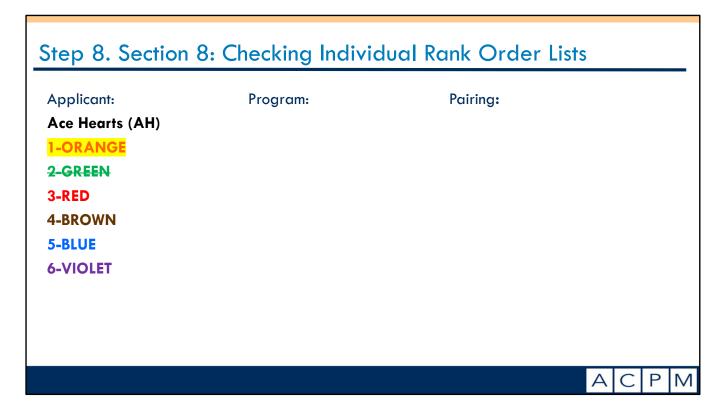
Ace of Diamonds – Selects GREEN – AD is Green's first choice – pure 1st choice- FINAL pairing, and GREEN is full.

Applicant:	Program:	Pairing:		
Ace Diamonds (AD)	GREEN			
1-GREEN	→ <u>1-AD</u>			
2-RED	2- AH			
3-ORANGE	3- AC			
4-BROWN	4- AS			
5-BLUE	5- KH			
6-VIOLET	6- QC			
	7- KS			
	8- QD			
	9- JC			

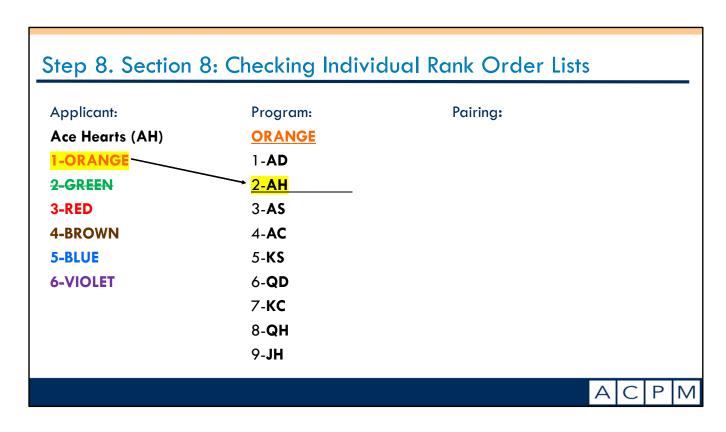
Ace of Diamonds – Selects GREEN – AD is Green's first choice – pure 1st choice-FINAL pairing, and GREEN is full.

Applicant:	Program:	Pairing:		
Ace Diamonds (AD)	GREEN [T=1, P=1, R=0]	GREEN-AD		
1-GREEN	→ <u>1-AD</u>	FINAL PAIRING*		
2-RED	2- AH			
3-ORANGE	3- AC			
4-BROWN	4- AS			
5-BLUE	5- KH			
6-VIOLET	6- QC			
	7- KS			
	8- QD			
	9- JC	*GREEN is filled		

Ace of Diamonds – Selects GREEN – AD is Green's first choice – pure 1st choice-FINAL pairing, and GREEN is full.

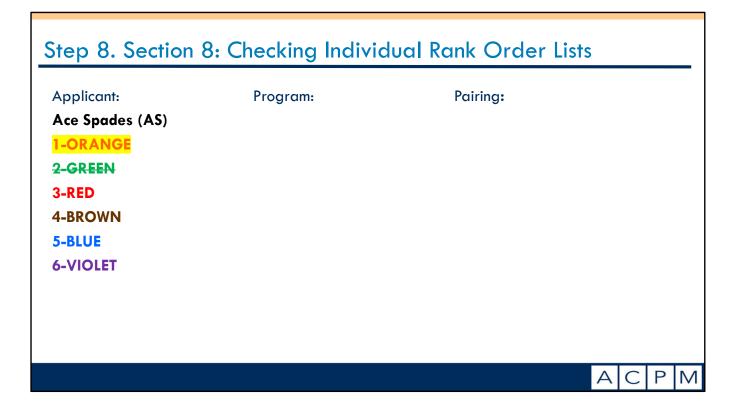


Ace of Hearts – Selects ORANGE – AH is Orange's 2nd choice, but within Orange's "Automatic Match/Pairing Zone" because ORANGE has 2 slots to fill – FINAL pairing.

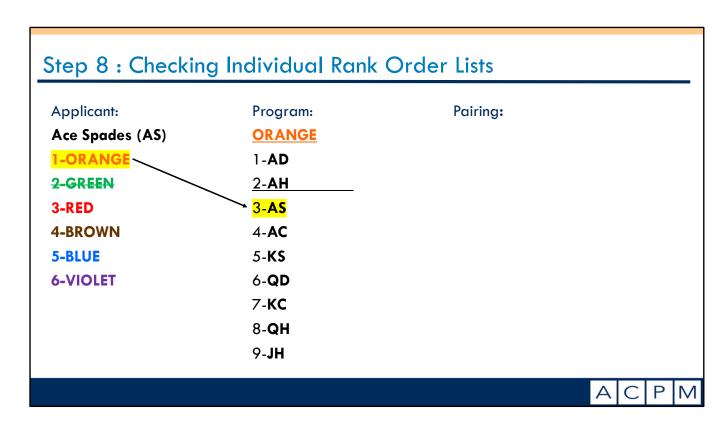


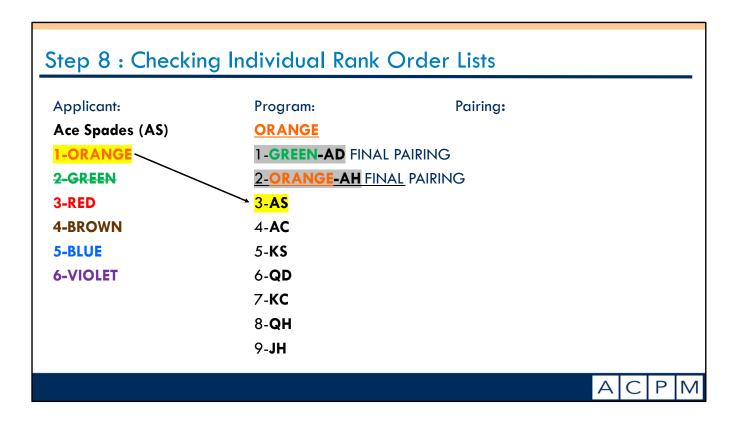
Ace of Hearts – Selects ORANGE – AH is Orange's 2nd choice, but within Orange's "Automatic Match/Pairing Zone" because ORANGE has 2 slots to fill – FINAL pairing.

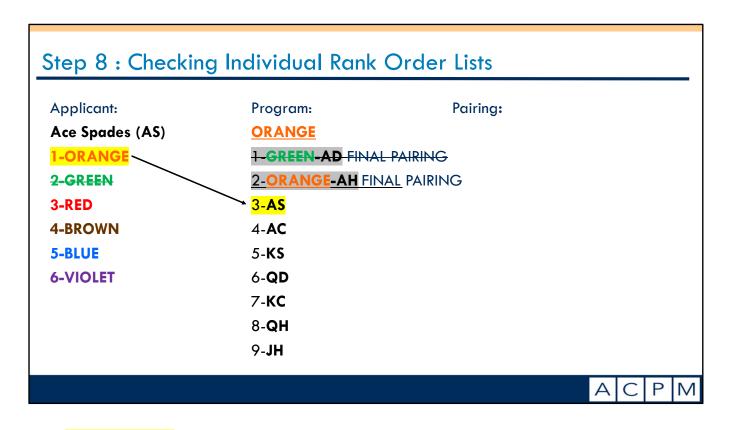
Step 8. Section 8	3: Checking Individual Re	ank Order Lists
Applicant:	Program:	Pairing:
Ace Hearts (AH)	ORANGE [T=2, P=1, R=1]	
I-ORANGE	1- AD	FINAL PAIRING*
2-GREEN	2-AH	
3-RED	3- AS	
4-BROWN	4- AC	
5-BLUE	5- KS	
6-VIOLET	6- QD	
	7- KC	
	8- QH	*All to O and to 2 and the took on the
	9- JH	*AH is Orange's 2nd choice, but within Orange's "Automatic Match/Pairing Zone" because ORANGE has 2 slots to fill – FINAL pairing.
		ACPM

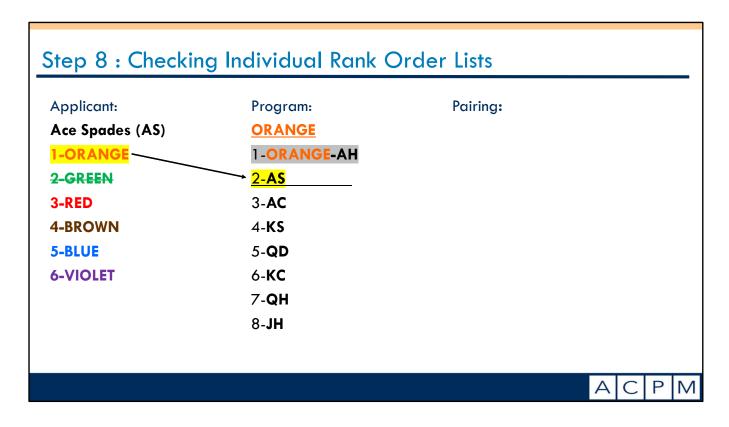


Ace of Spades – Selects ORANGE – AS is ORANGE's 3rd choice, but Orange's 1st choice (Ace of Diamonds) has a final pairing with GREEN (see above), which moves AS into ORANGE's 2nd (of two) available slot, for a FINAL pairing (and ORANGE is filled).





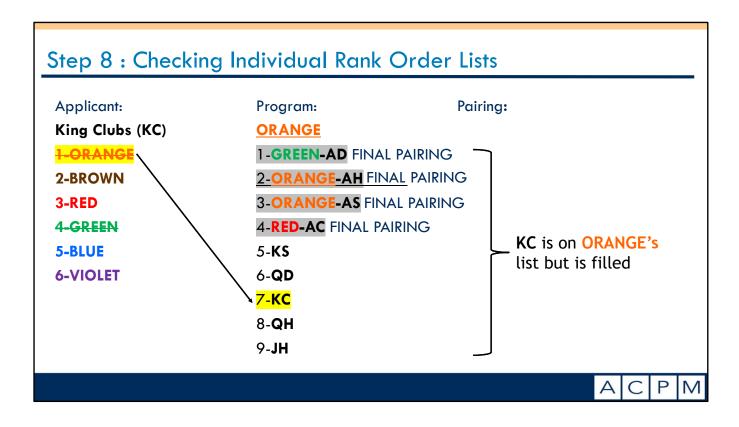




Applicant:	Program:	Pairing:	
Ace Spades (AS)	ORANGE [T=2, P=2, R=0]	ORANGE-AS	
1-ORANGE	1-ORANGE-AH	FINAL PAIRING*	
2 -GREEN	2-AS		
3-RED	3- AC		
4-BROWN	4- KS		
5-BLUE	5- QD		
6-VIOLET	6- KC		
	7- QH		
	8- JH		



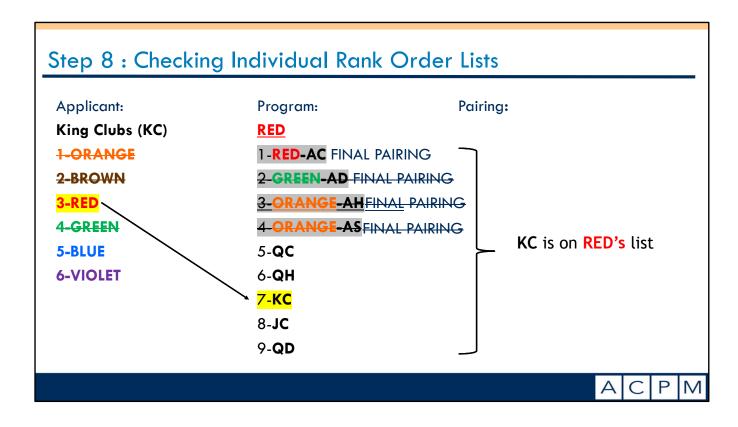
King of Clubs selects ORANGE, which is filled. KC moves to the next program on its list.



<u>King of Clubs</u> selects ORANGE, which is filled. KC moves to the next program on its list.



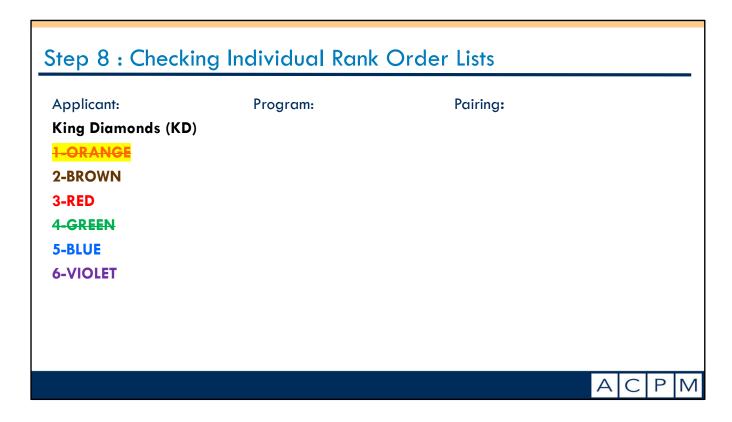
KC next selects BROWN but KC is not on BROWN's list so KC moves to the next program



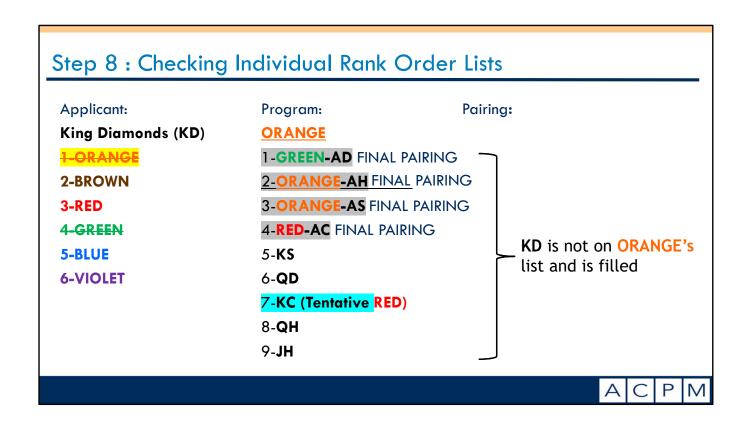
KC next selects RED next. King of Clubs is on Red's list which has three slots and only one final pairing.



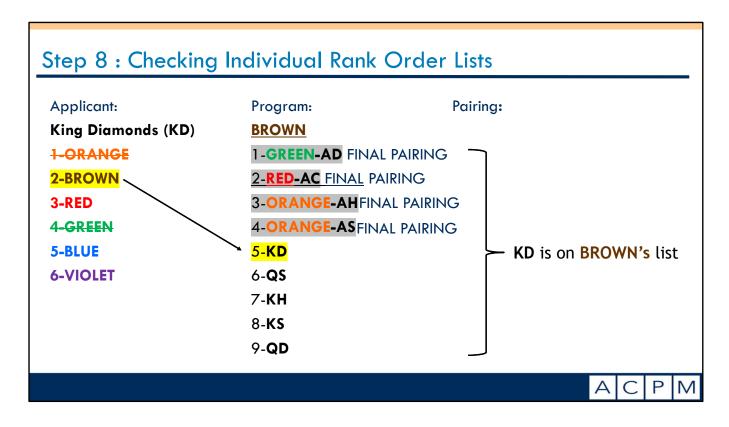
KC next selected RED next. So KC in TENTATIVELY paired with RED.



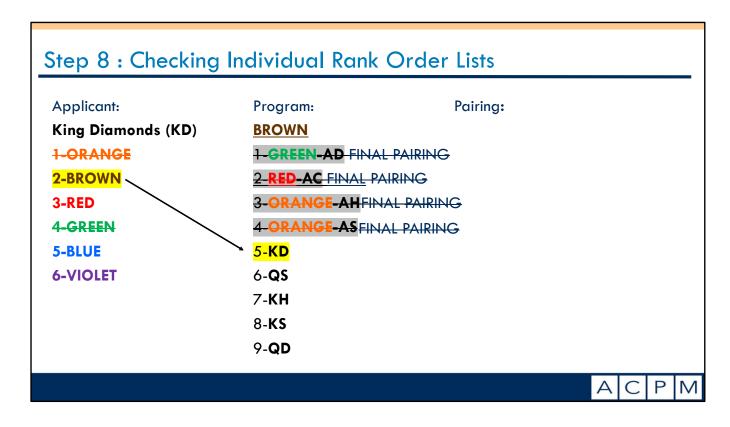
King of Diamonds selects Orange



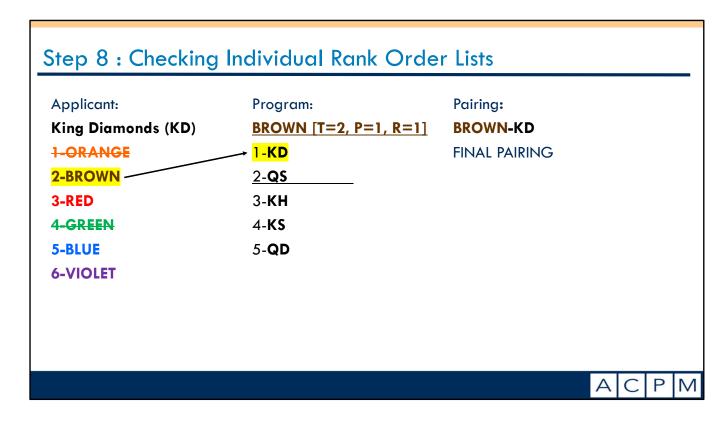
King of Diamonds selects Orange, which is filled and KD is not on ORANGE's list. KD moves to their next program



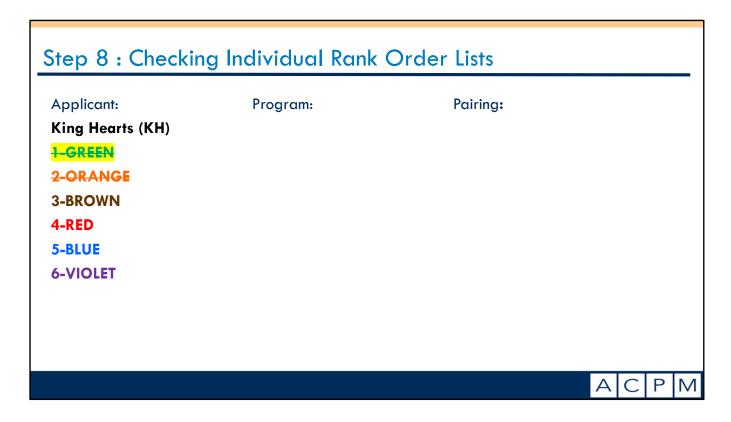
King of Diamonds selects BROWN next. KD is on BROWN's list and is the highest ranked available candidate on BROWN's list and moves to the AUTOMATIC PAIRING ZONE. This is a FINAL PAIRING.



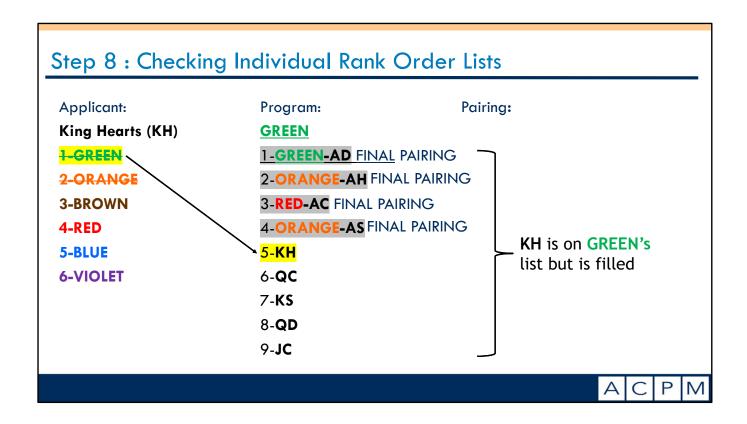
King of Diamonds selects BROWN next. KD is on BROWN's list and is the highest ranked available candidate on BROWN's list and moves to the AUTOMATIC PAIRING ZONE. This is a FINAL PAIRING.



King of Diamonds selects BROWN next. KD is on BROWN's list and is the highest ranked available candidate on BROWN's list and moves to the AUTOMATIC PAIRING ZONE. This is a FINAL PAIRING.



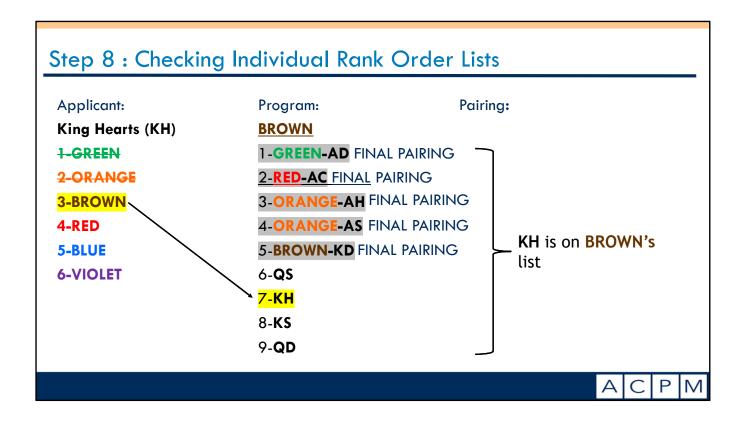
Next, King of Hearts selects GREEN



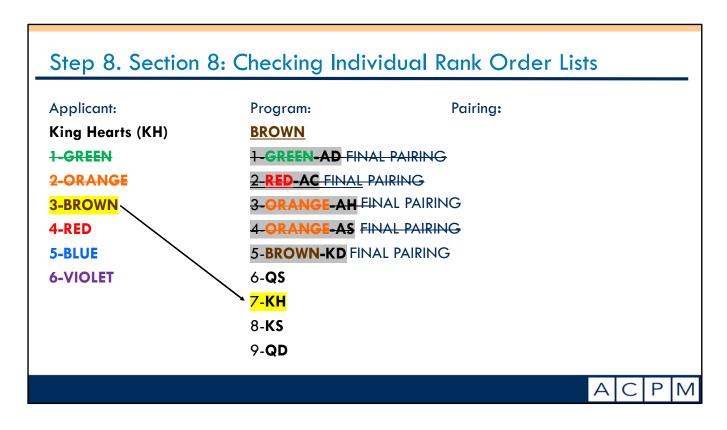
KH Selects GREEN next which is Filled, and KH moves to the next program on KH's list.



King of Hearts selected ORANGE next, but is NOT on ORANGE's list and ORANGE is full), so moves to the next PROGRAM on KH's list.



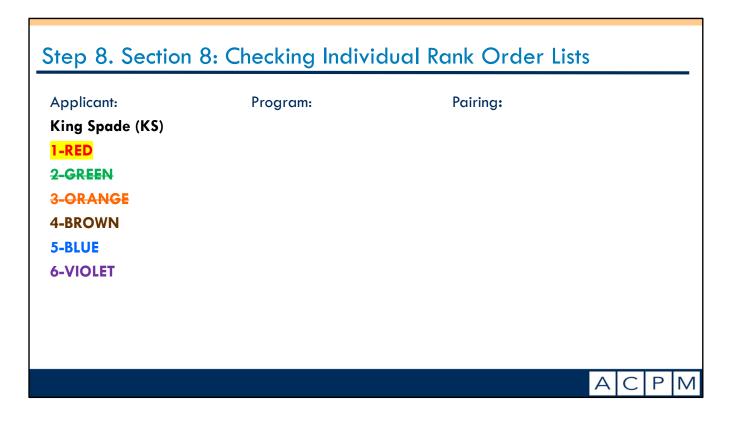
King of Hearts selects BROWN next, and BROWN has KH on its list.



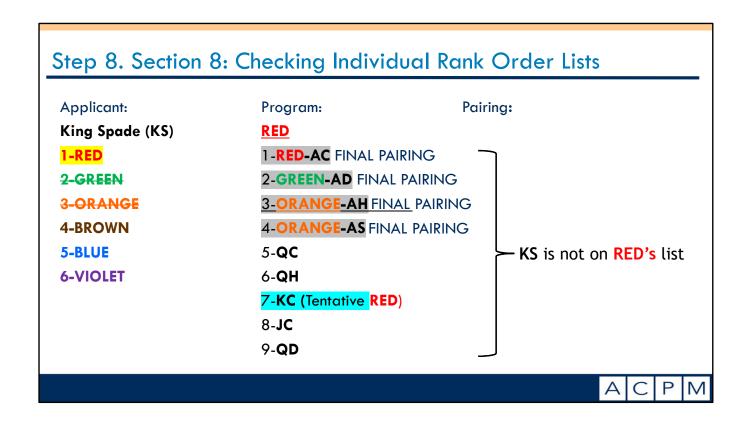
King of Hearts selects BROWN next, and BROWN has KH on its list.

Applicant:	Program:	Pairing:
(ing Hearts (KH)	<u>BROWN</u>	King Hearts (KH)
I-GREEN	1-BROWN-KD FINAL PAIRING	TENTATIVE
2-ORANGE	2- QS	
B <mark>-BROWN</mark>	<mark>7-КН</mark>	
1-RED	8- KS	
5-BLUE	9- QD	
S-VIOLET		

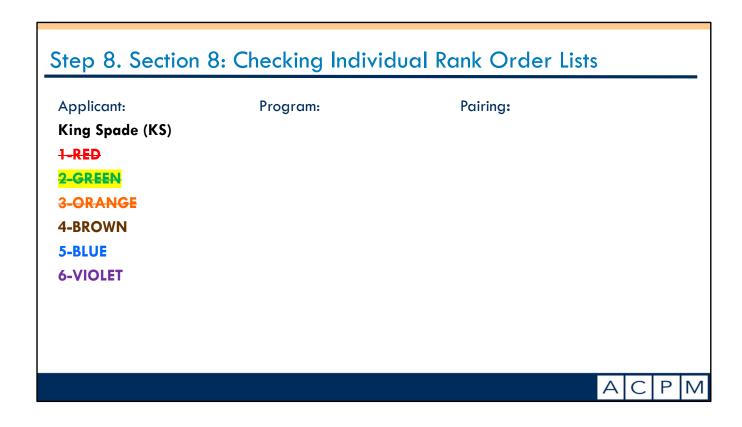
Since BROWN still has one open slot and KH is on BROWN's list (with one applicant still ranked higher that KH), KH has a TENTATIVE match with BROWN



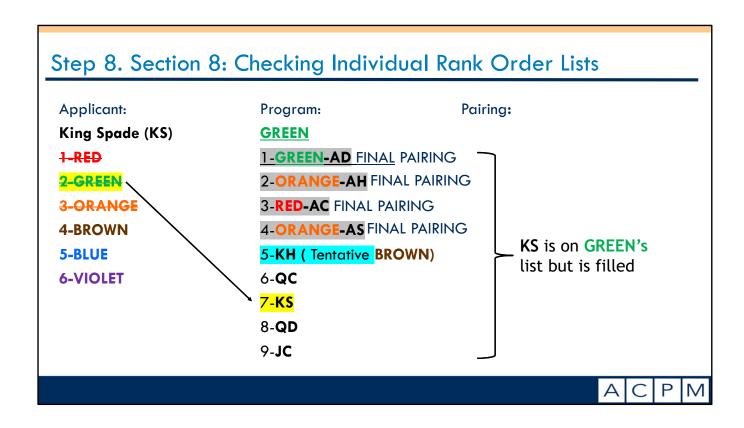
Next, King of Spades selects RED,



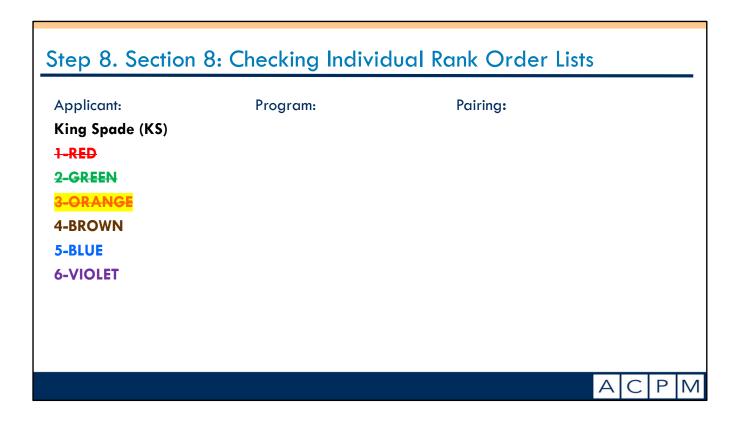
King of Spades selects RED, but KS does NOT appear on RED's list, so KS moves to their next PROGRAM (even though RED is not filled)



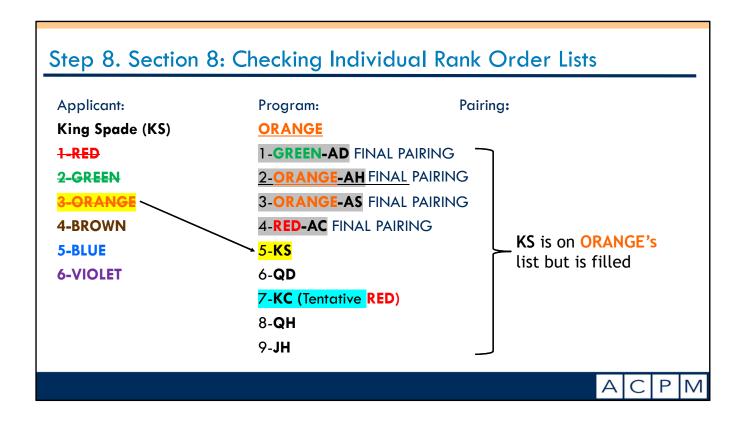
King of Spades selects GREEN next.



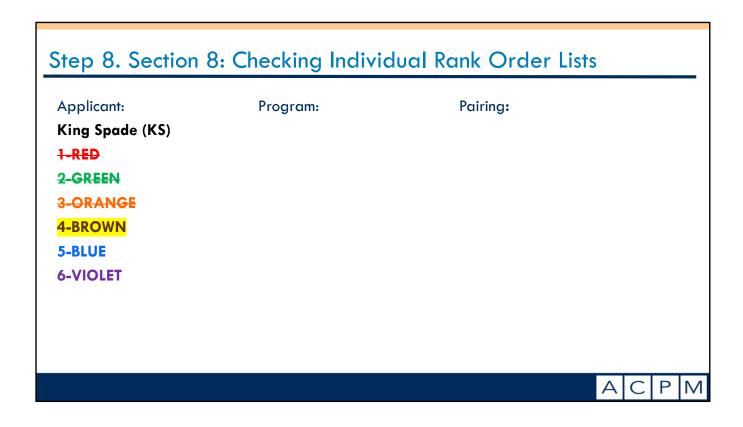
King of Spades selects GREEN next, which on GREEN's list but GREEN is filled to KS moves to their next program.



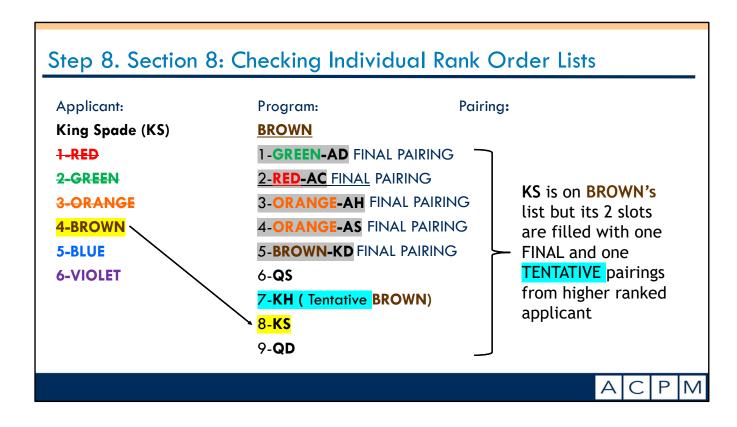
King of Spades selected ORANGE next



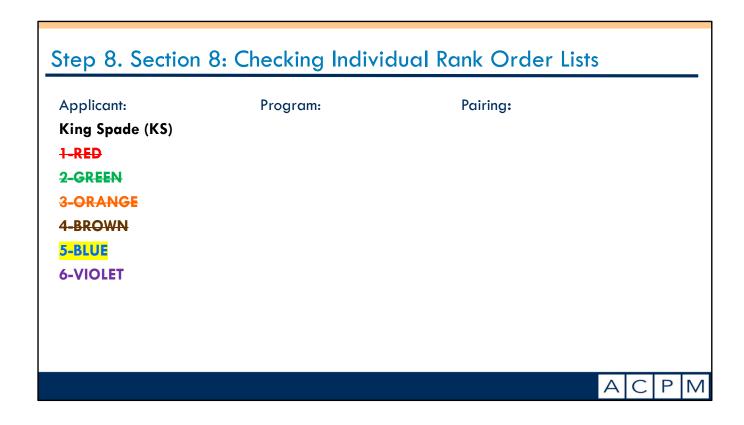
King of Spades selected ORANGE next, and even though KS on ORANGE's list and ORANGE is already full), so KS moves to their next PROGRAM



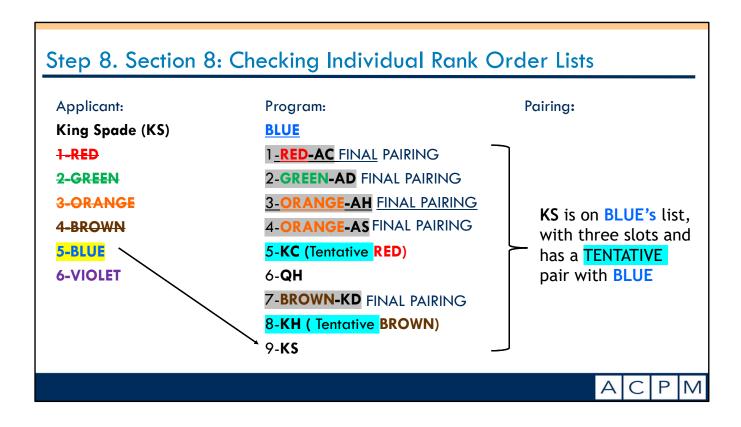
King of Spades selects BROWN next,



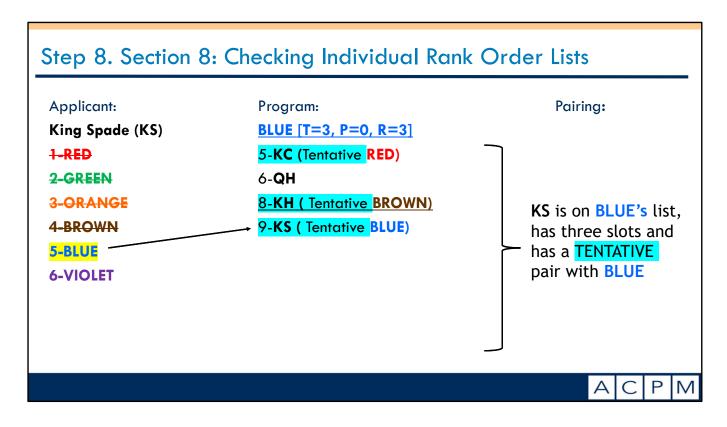
King of Spades selects BROWN next, but BROWN only has two slots, one of which is final pairing and one tentative pairing with a higher ranked applicant (KH) so KS moves to the next program on its list



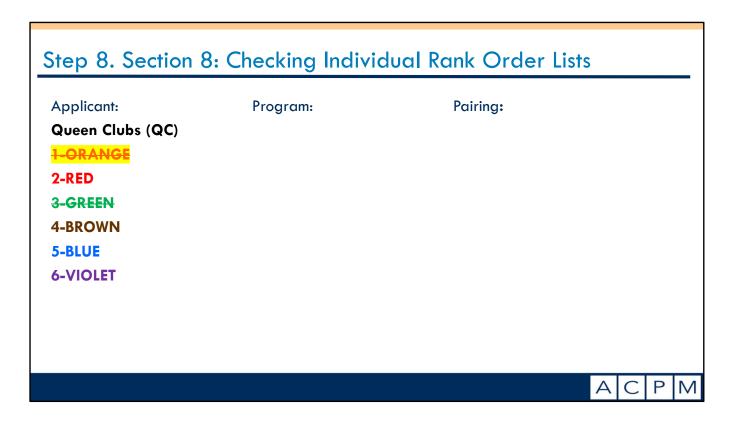
King of Spades selects BLUE next



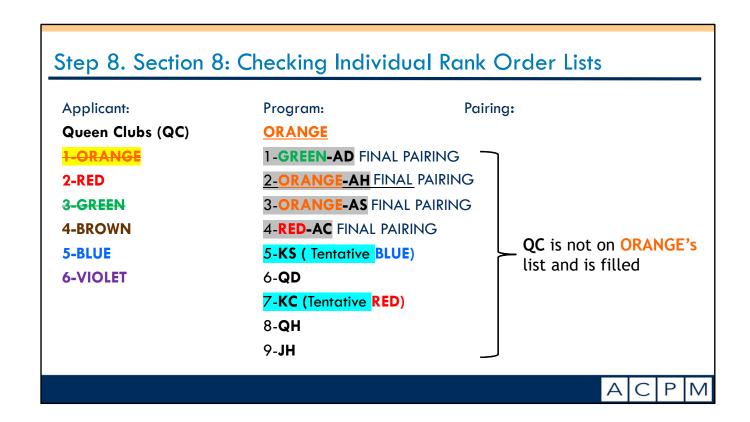
King of Spades is on BLUE's list. Blue has three slots since BLUE has no FINAL pairings or TENTATIVE pairings with any higher ranked candidates on its list, but Blue does have higher ranked applicants, so KS is TENTATIVELY PAIRED with Blue



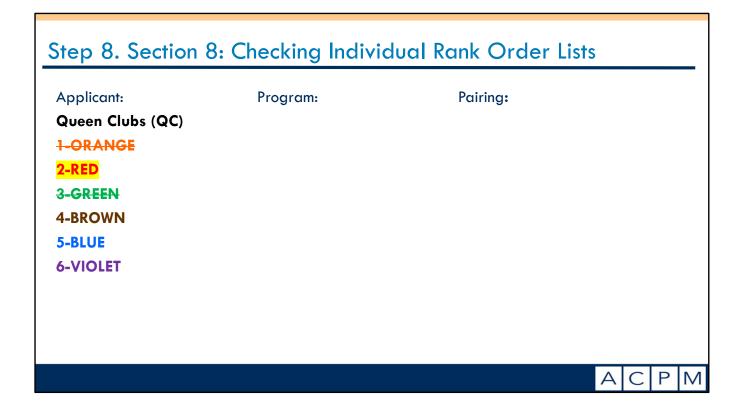
King of Spades is on BLUE's list. Blue has three slots since BLUE has no FINAL pairings or TENTATIVE pairings with any higher ranked candidates on its list, but Blue does have higher ranked applicants, so KS is TENTATIVELY PAIRED with Blue



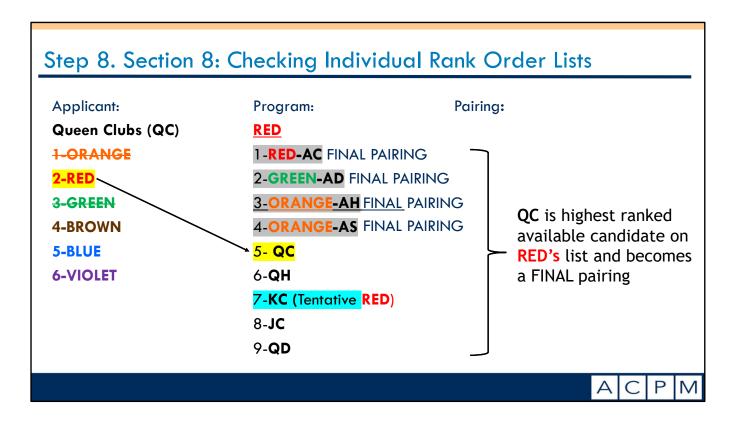
Next, **Queen of Clubs** selects ORANGE



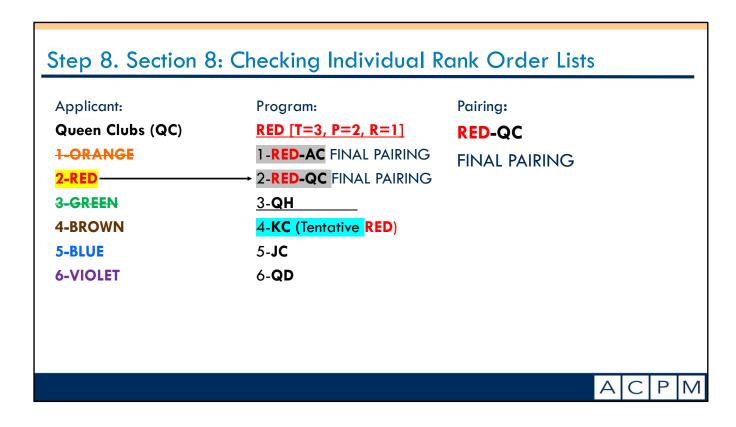
Queen of Clubs selects ORANGE which is filled and QC is not on ORANGE's list



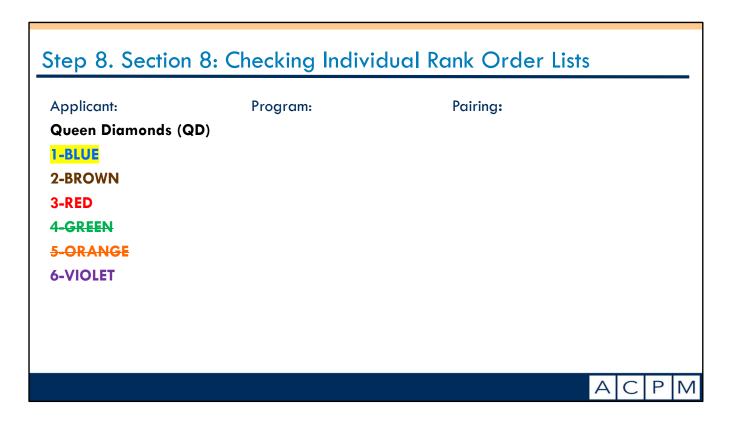
Queen of Clubs selected RED next on its list, and is the highest ranking applicant on RED's list, who as yet has only filled 1 of its 3 slots, so this is in RED's Automatic Match/Pairing Zone, and becomes a FINAL PAIRING.



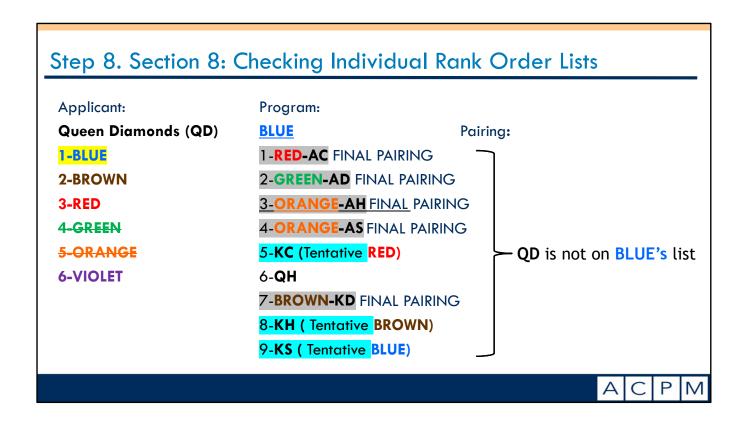
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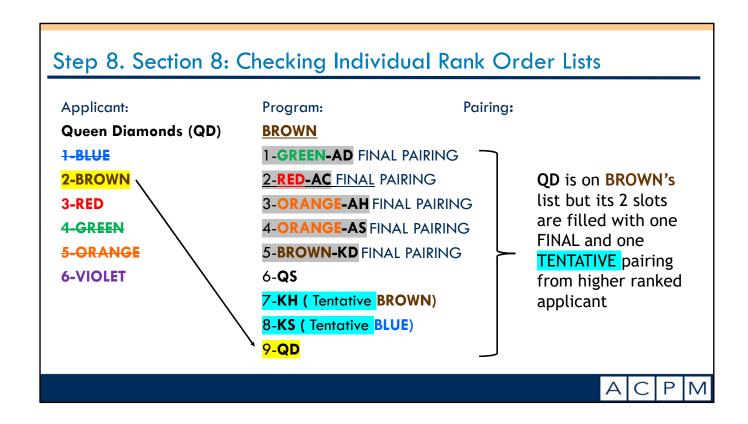
So QC moves into RED's Automatic Match/Pairing Zone, and becomes a FINAL PAIRING.



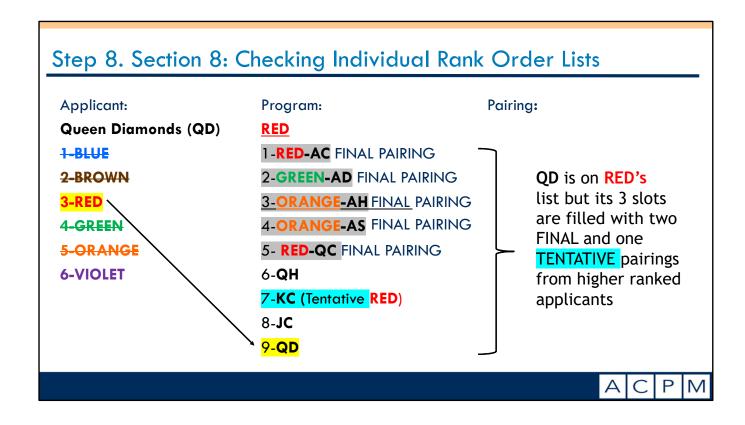
Next, **Queen of Diamonds** selects BLUE,



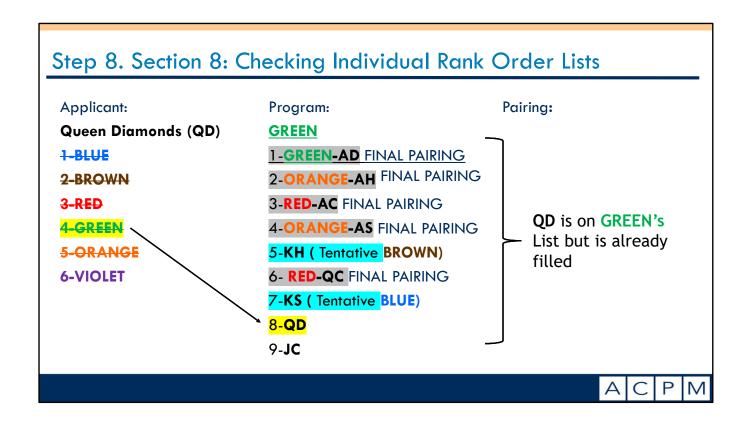
Queen of Diamonds selects BLUE, but is not on BLUE's list, so QD goes the next program



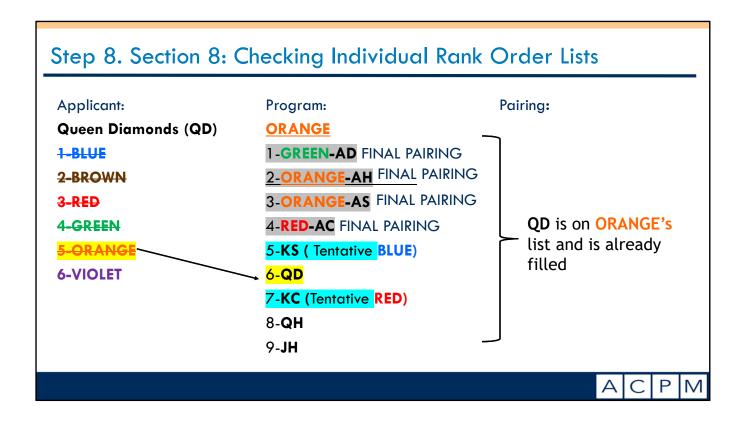
Queen of Diamonds selected BROWN; QD is on BROWN's list but its 2 slots are filled with one FINAL and one TENTATIVE pairing from higher ranked applicant, so QD moves down their list.



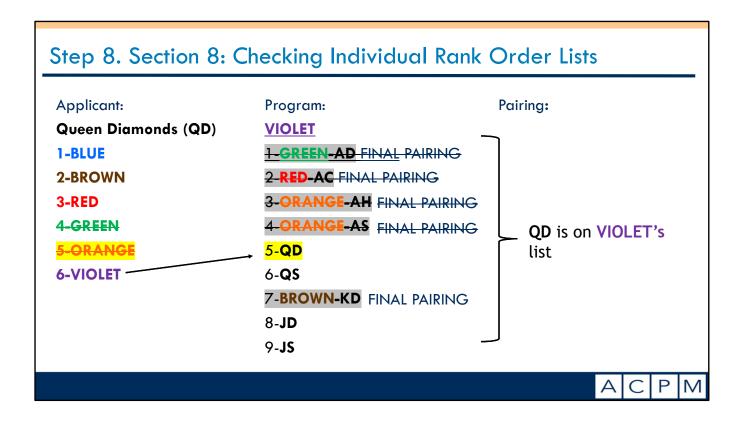
QD selects RED next. but its 3 slots are filled with two FINAL pairings and one TENTATIVE pairing from higher ranked applicants



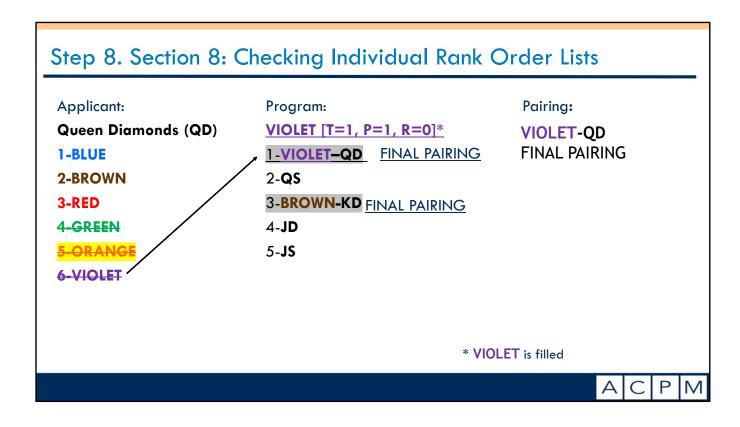
QD SELECTS GREEN next and is on Green's list but GREEN is filled. So QD moves to their next program



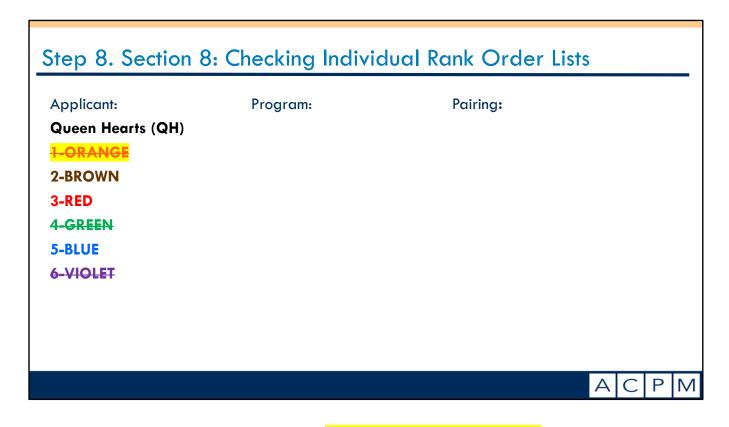
QD is on ORANGE's list but ORANGE is already filled with higher ranked applicants, so Queen of Diamond moves to the next and last program on its list, VIOLET.



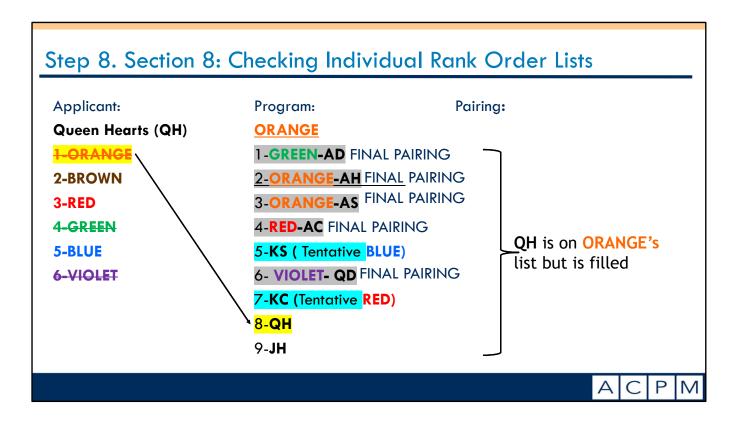
QD is the highest-ranked available candidate and moves into VIOLET's AUTOMATIC PAIRING ZONE of one slot. This is a FINAL PAIR.



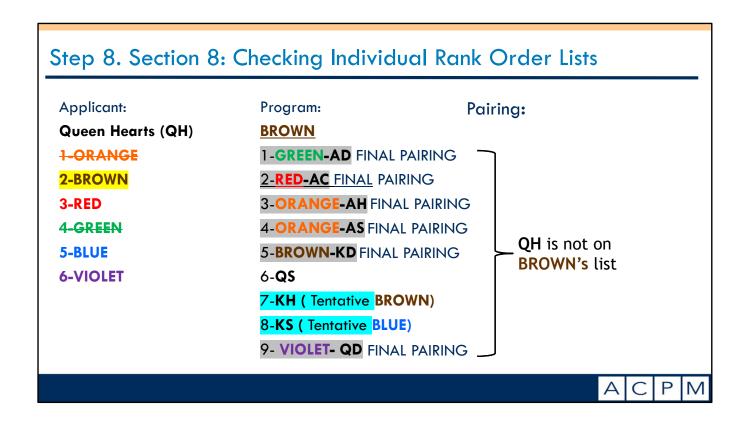
QD is paired with VIOLET. Since Violet only has one slot. Violet is filled.



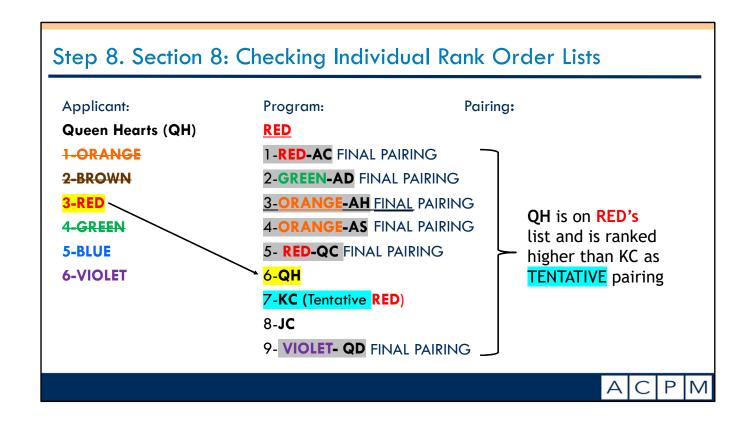
The next Applicant, **Queen of Hearts** selects **ORANGE.**



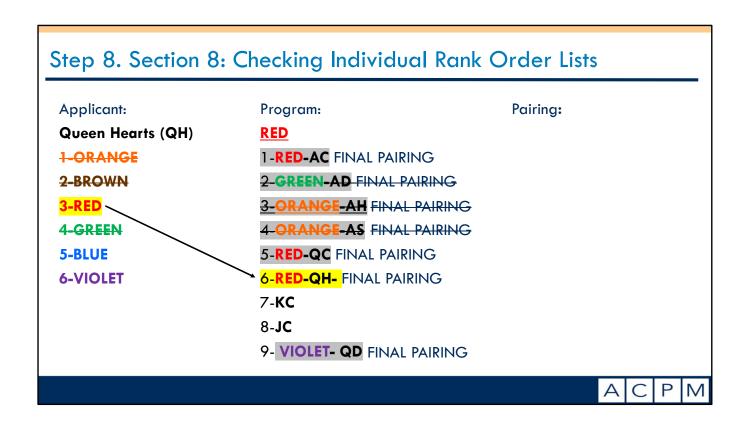
Queen of Hearts selects ORANGE, and is on ORANGE's list, but ORANGE is full, so QH goes to the next PROGRAM on their list.



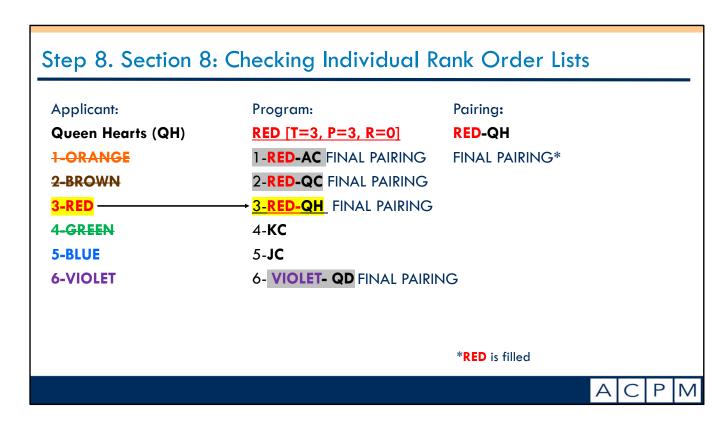
Queen of Hearts selected BROWN but is NOT on BROWN's list, so moves to the next program on its list, RED.



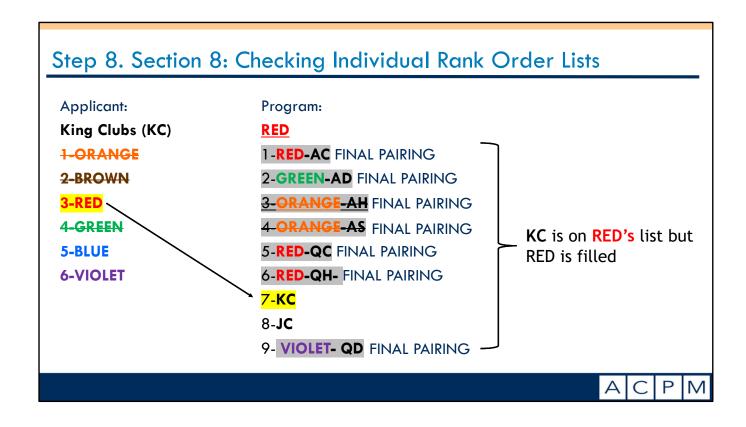
QH is on RED's list and is higher ranked than tentatively-paired KC



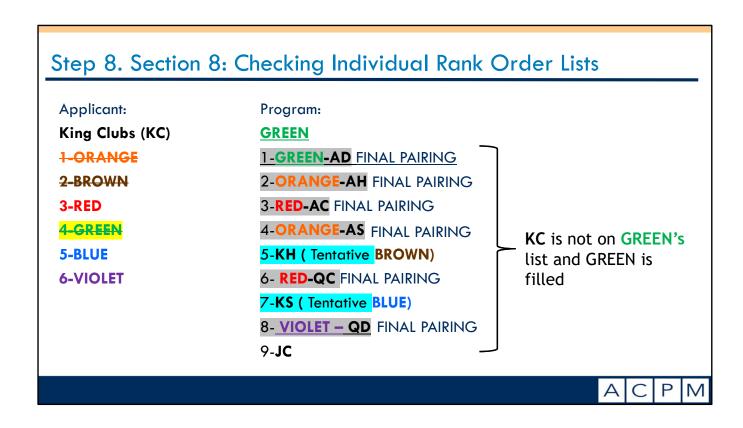
QH is within RED's Automatic Match/Pairing Zone, so becomes a FINAL pairing and moves to the FINAL STACK.



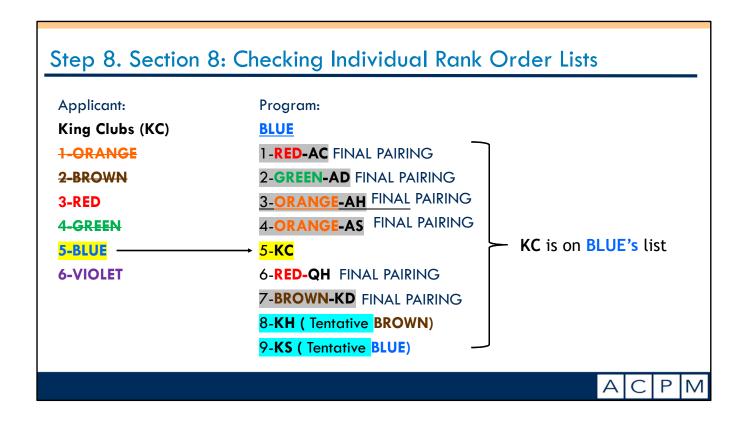
Queen of Hearts selected RED next, was within RED's Automatic Match/Pairing Zone, so becomes a FINAL pairing and moves to the FINAL STACK. RED is now full.



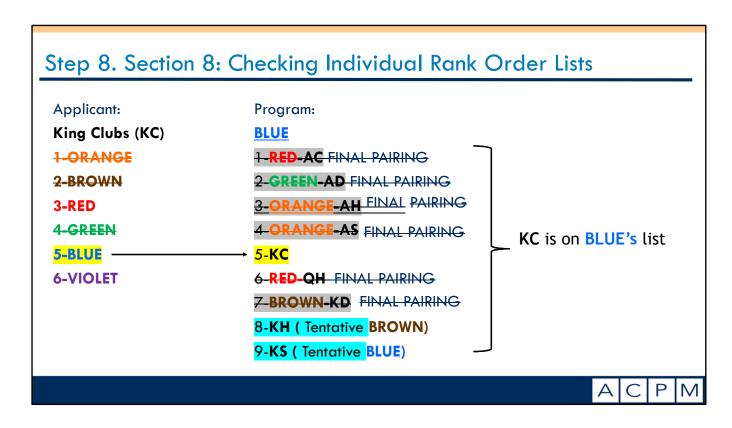
Since KC was tentatively PAIRED with RED, and KC was displaced by a higher-ranked applicant, KC moves down its program rank list to GREEN next.



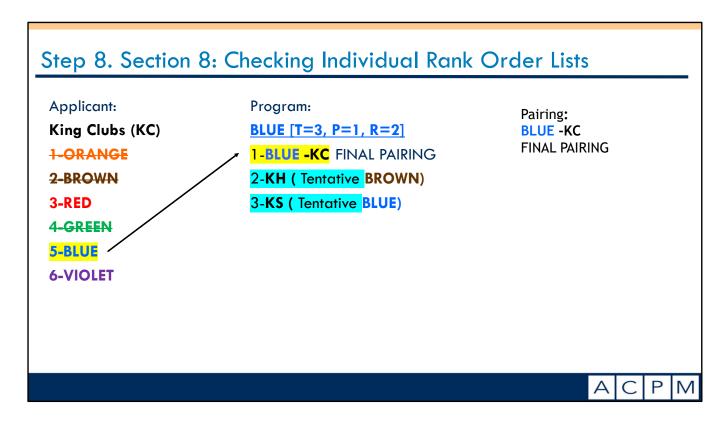
KC moves to GREEN next but GREEN is filled and KC is not on GREEN's list. KC moves to BLUE next.



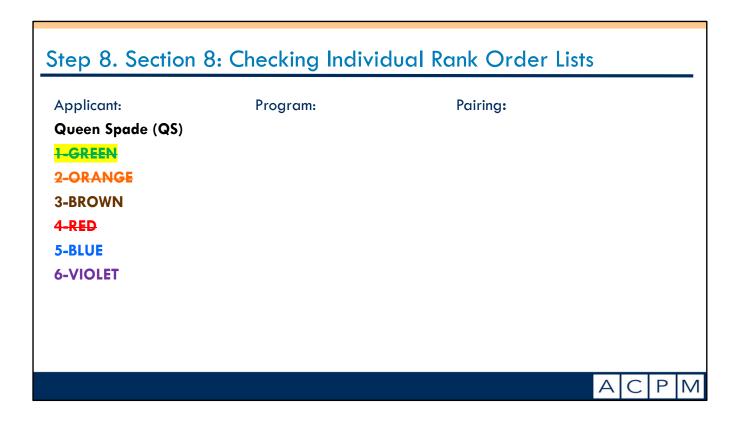
KC is on BLUE's list and Blue's three slots does not have any FINAL pairings with any candidates ranked higher than King of Clubs. This moves KC into Automatic Pairing Zone and becomes a FINAL PAIR.



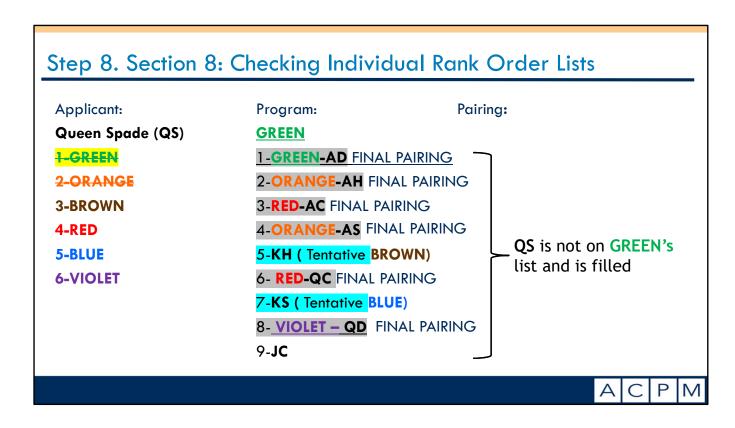
KC is on BLUE's list and Blue's three slots does not have any FINAL pairings with any candidates ranked higher than King of Clubs. This moves KC into Automatic Pairing Zone and becomes a FINAL PAIR.



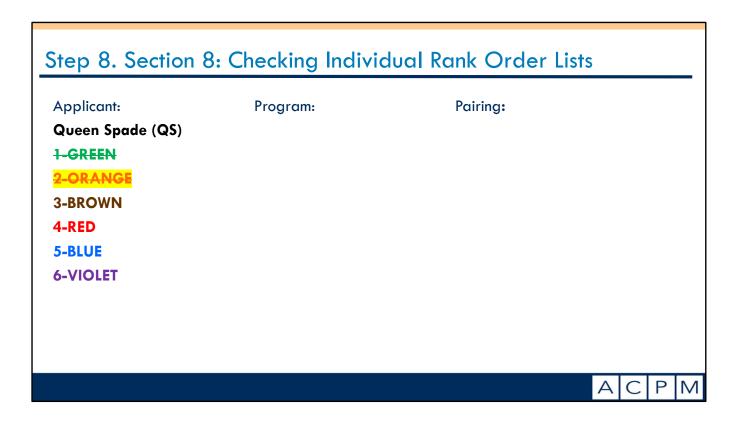
KC is on BLUE's list and Blue's three slots does not have any FINAL pairings with any candidates ranked higher than King of Clubs. This moves KC into Automatic Pairing Zone and becomes a FINAL PAIR.



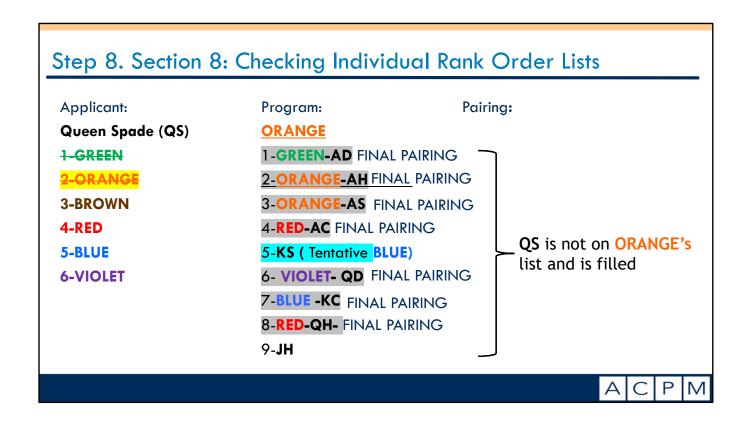
Next, <u>Queen of Spades</u> selects GREEN, but is not on GREEN's list, so QS goes to the next program on their list.



Next, <u>Queen of Spades</u> selects GREEN, but is not on GREEN's list, so QS goes to the next program on their list.



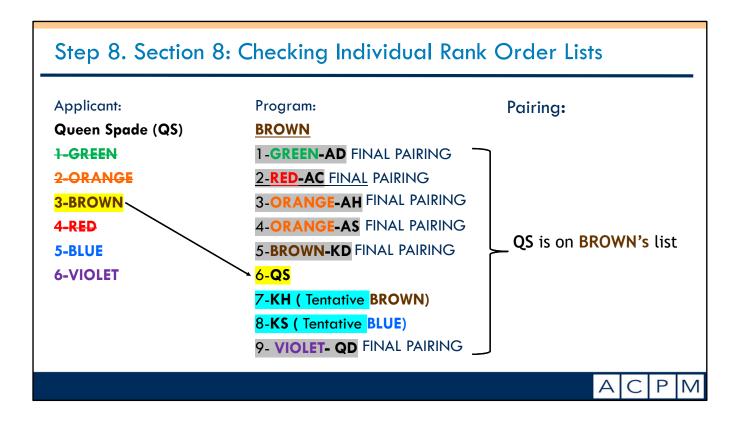
Queen of Spades selected ORANGE next,



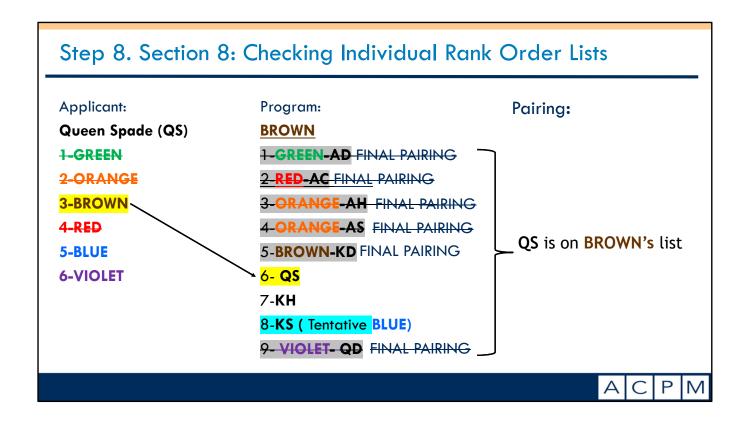
Queen of Spades selected ORANGE next, but is NOT on ORANGE's list and ORANGE is full), so QS moves to the next program



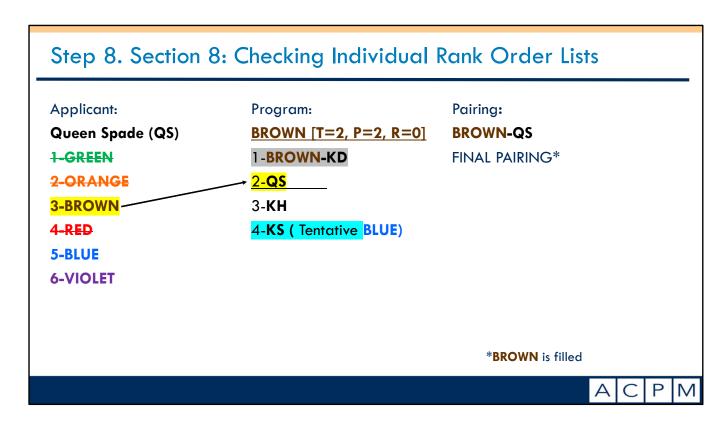
Queen of Spades selects BROWN next, and is next on BROWN's list. This is a FINAL pairing, QS goes to the FINAL Pairing stack, and BROWN's two slots are full.



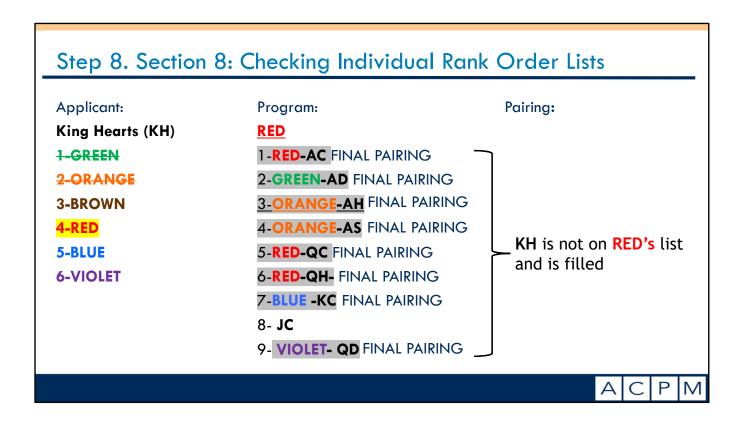
Queen of Spades selects BROWN next, and is next on BROWN's list. This is a FINAL pairing, QS goes to the FINAL Pairing stack, and BROWN's two slots are full.



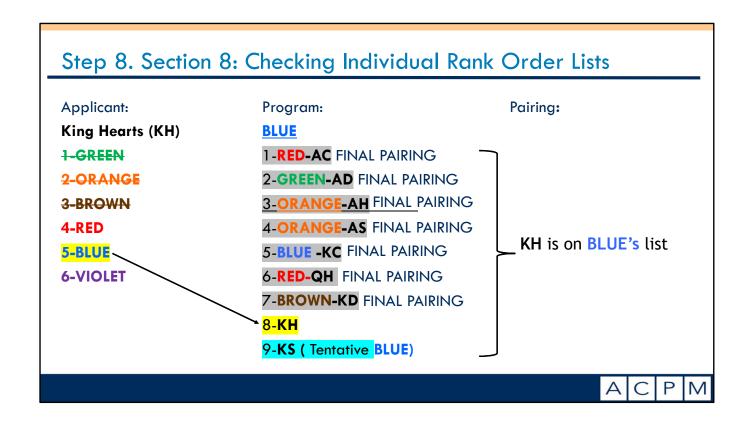
Since Queen of Spades is the highest-ranked unpaired candidate on BROWN's list and only one of BROWN's 2 slots are filled, this moves QS into AUTOMATIC PAIR ZONE. In addition, since QS is ranked higher than tentatively paired KH, KH is displaced.



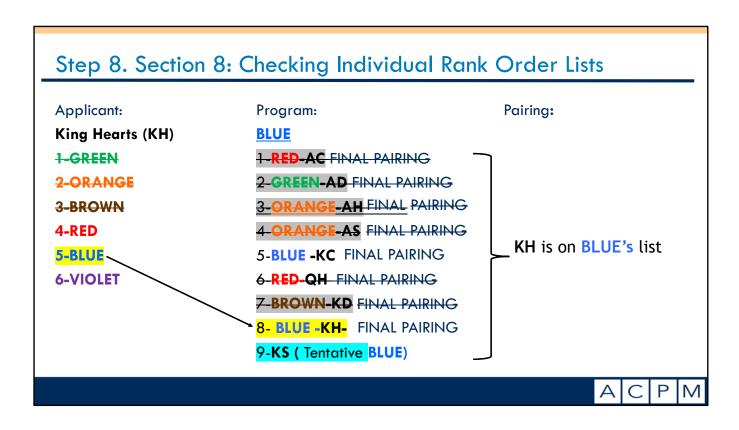
Since Queen of Spades is the highest-ranked unpaired candidate on BROWN's list and only one of BROWN's 2 slots are filled, this moves QS into AUTOMATIC PAIR ZONE. In addition, since QS is ranked higher than tentatively paired KH, KH is displaced.



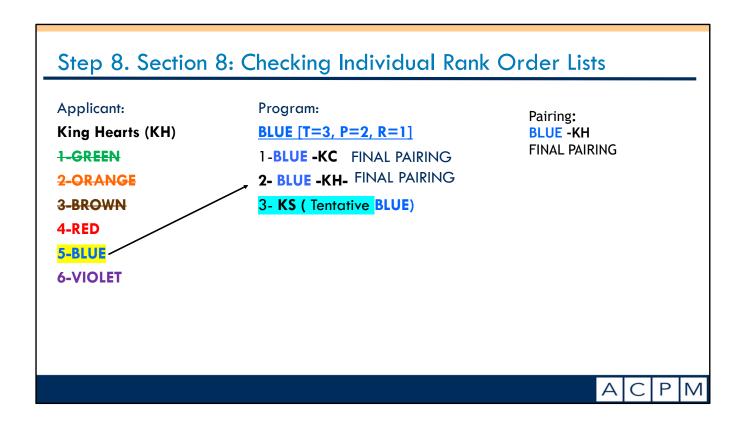
Since KH was tentatively paired with BROWN and displaced, we move to the next program on KH's list which is RED. KH is not on RED's list and RED is filled. KH moves to their next program, BLUE.



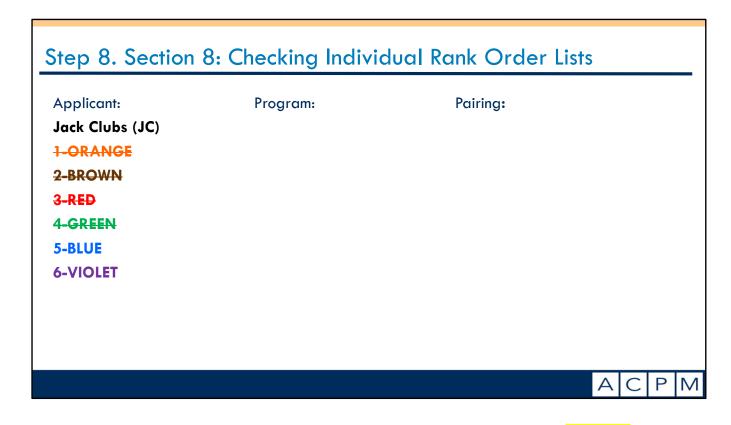
KH is on Blue's list.



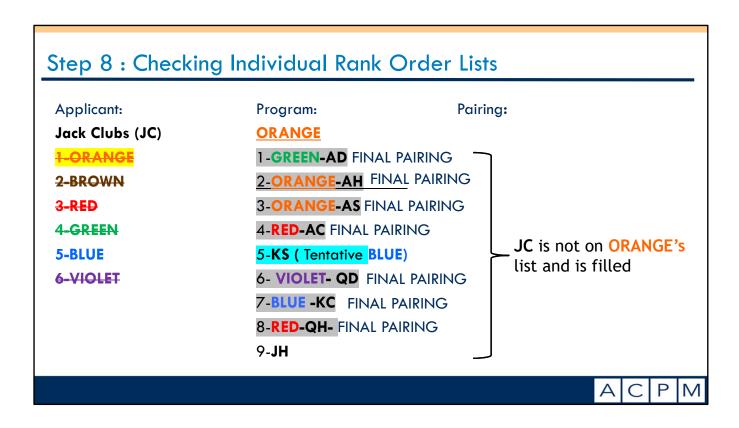
KH is on Blue's list. Since Blue has three slots including ONE FINAL PAIRING, this moves KH into BLUE's automatic pairing zone since KH is Blue's highest ranked unpaired candidate.



KS and BLUE are a FINAL pairing.



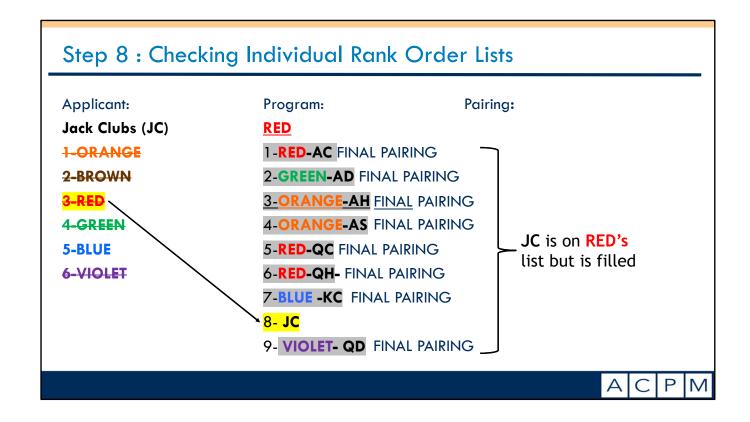
We move to the next set of applicants: Jacks
which (based on our initial set of assumptions)
are the least frequently ranked among all applicants.



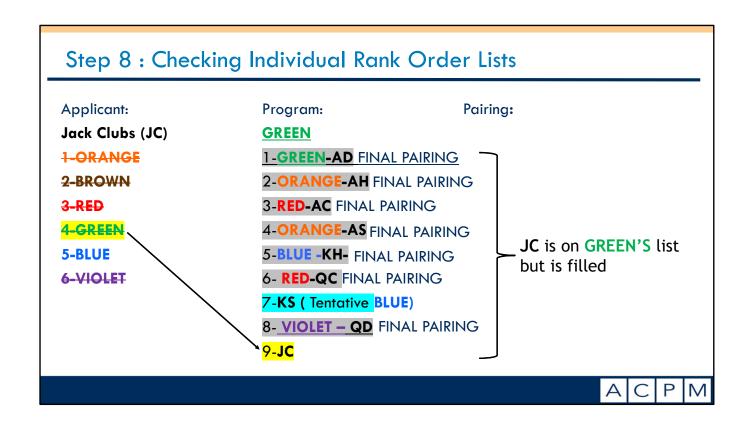
<u>Jack of Clubs</u> selects ORANGE, which is not only filled, but does not list JC on it's list, so JC goes to their next program



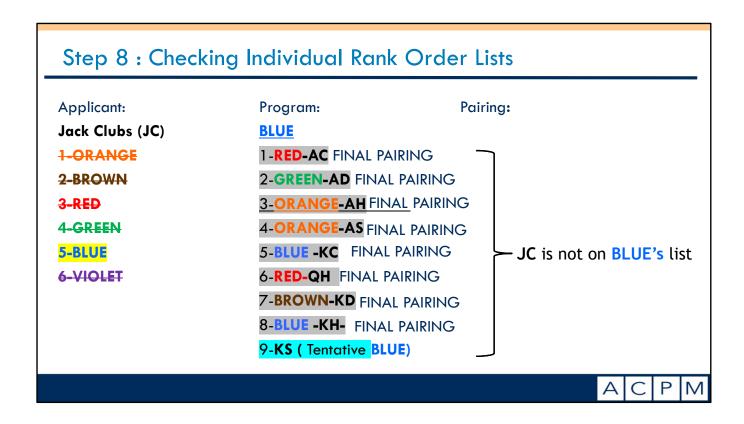
Jack of Clubs selected BROWN next, but is NOT on BROWN's list, so moves to their next program



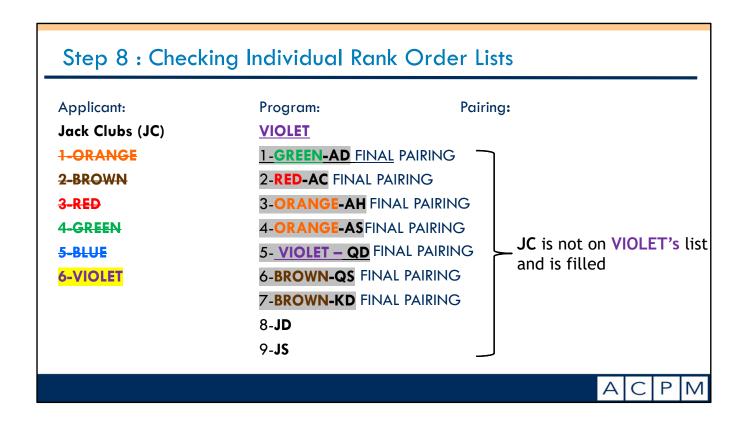
Jack of Clubs selects RED next, but RED is now full (even though JC was on RED's list, so JC moves to their next program



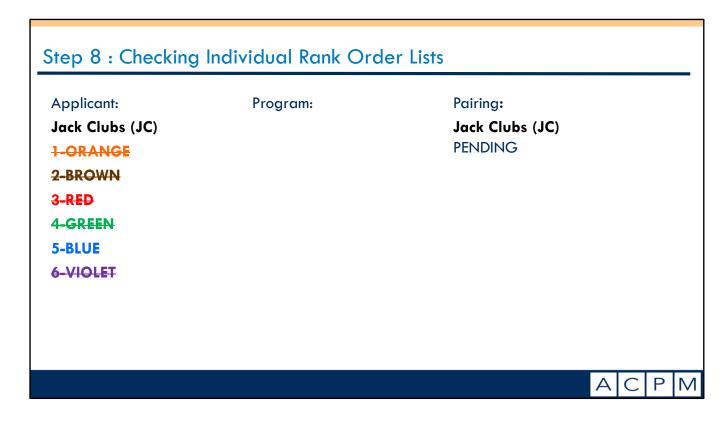
Jack of Clubs selects GREEN next, but JC was NOT on GREEN's list, and GREEN is full, so JC moves to the next program



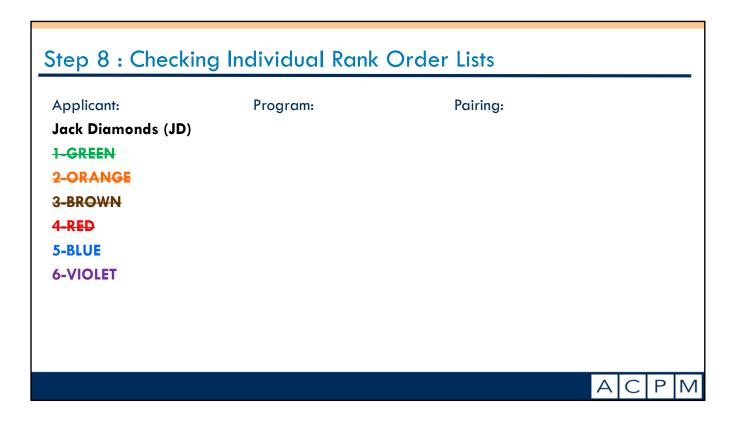
Jack of Clubs selects BLUE next but BLUE is filled, with two FINAL and one TENTATIVE PAIR, with no additional slots in the program and JC moves to its last program, VIOLET



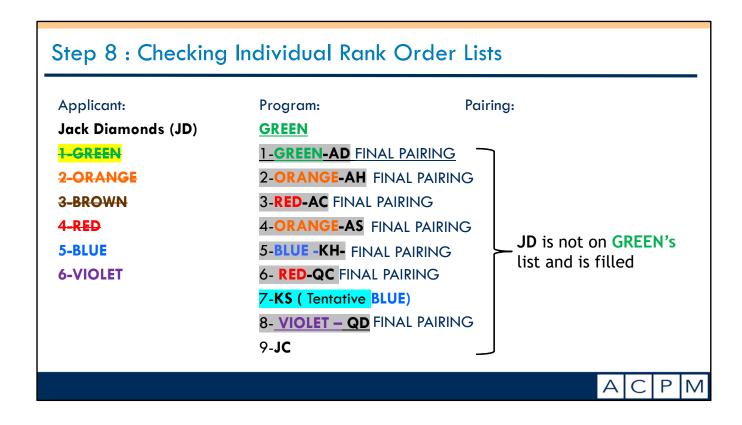
Jack of Clubs has selected VIOLET next, JC is not on VIOLET's list and VIOLET is filled



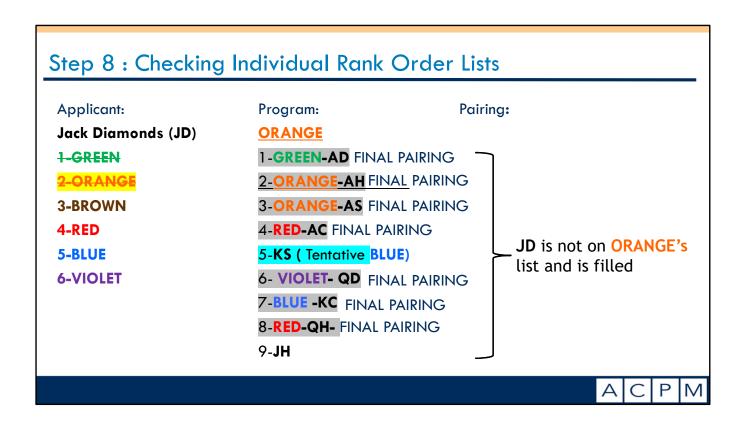
Since Jack of Clubs was not paired with any of the six programs, but since there is at least one applicant (KS) that has a TENTATIVE PAIR, Jack of Clubs is placed in the pending stack



Next we look at **Jack of Diamonds**



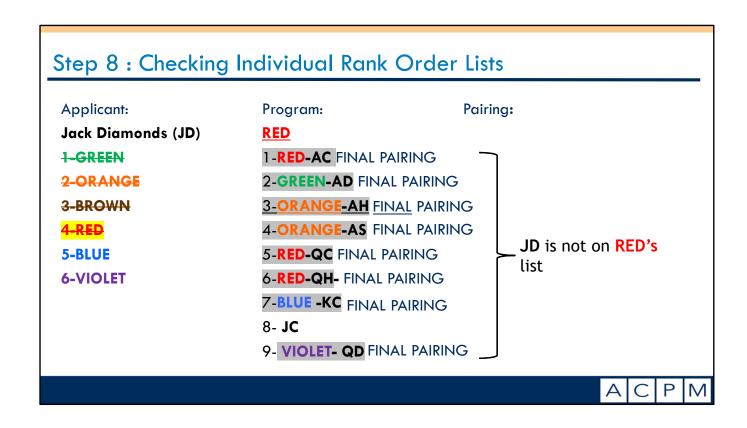
Jack of Diamonds selects GREEN which is not only filled, but does not list JD on it's list, so JD moves to the next program.



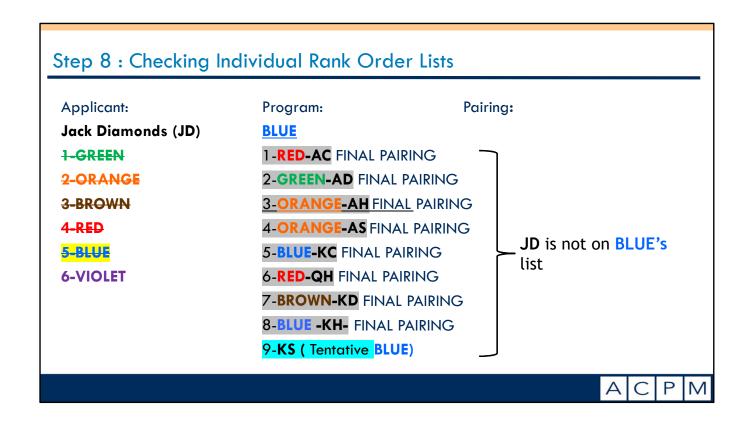
Jack of Diamonds selected ORANGE next, but is NOT on ORANGE's list and ORANGE is full), so JD moves to the next program.



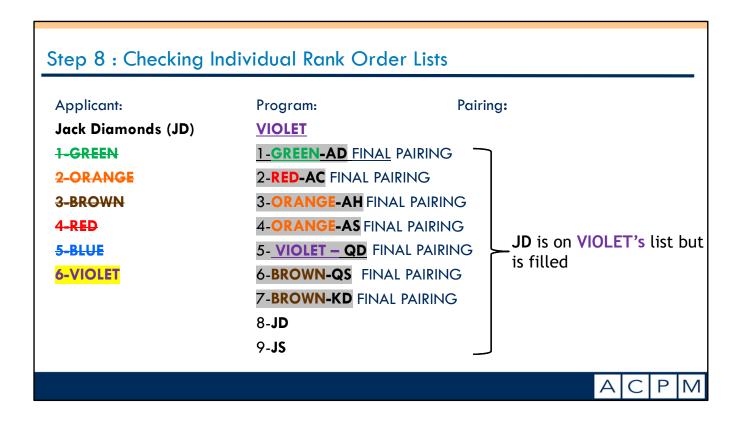
Jack of Diamonds selects BROWN next, but BROWN is now full (and JD was not on BROWN's list, so JD moves to their next program



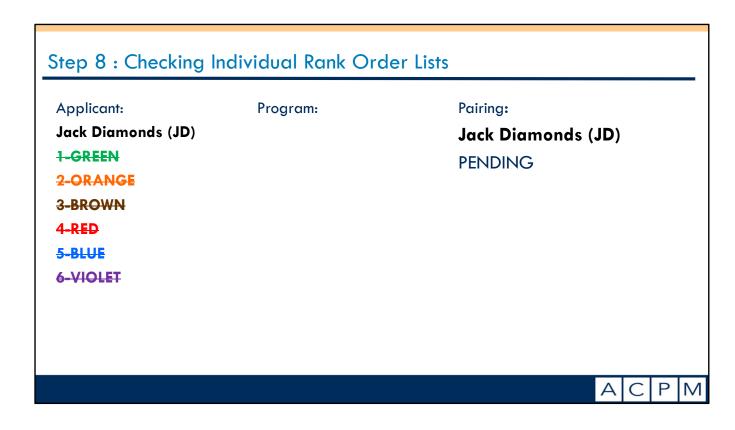
Jack of Diamonds selects RED next, but JD was NOT on RED's list, and RED is full, so moves to their next program



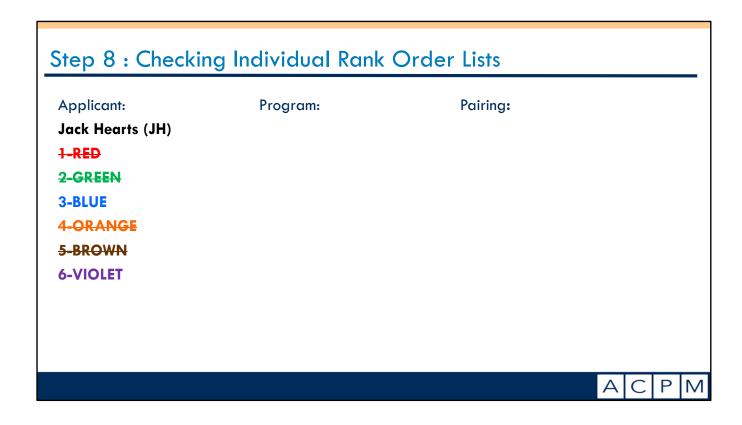
Jack of Diamonds has selected BLUE next, but BLUE is now full, so JD moves to its next program, VIOLET..



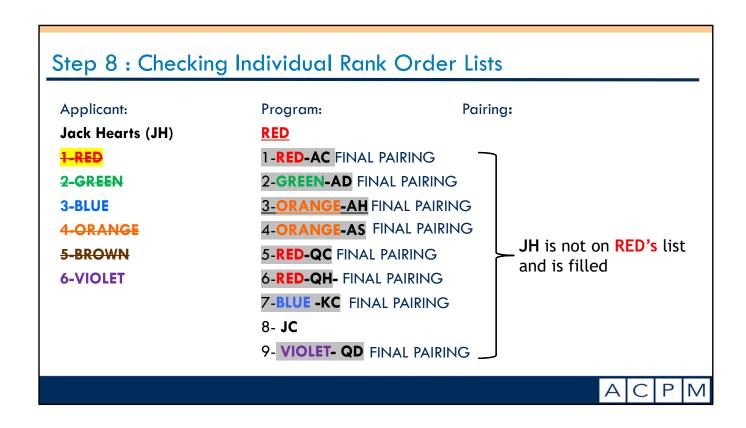
Jack of Diamonds has selected VIOLET next, but JD is not on VIOLET's list and VIOLET is full. Jack of Diamonds has gone through all of its program on the list.



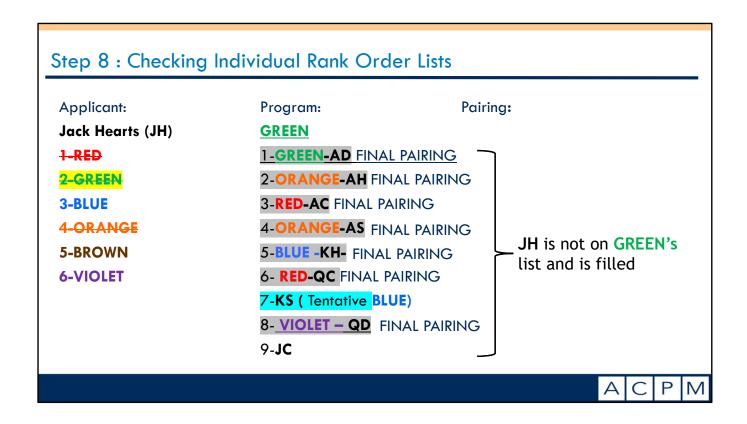
Jack of Diamonds is placed in the Pending stack



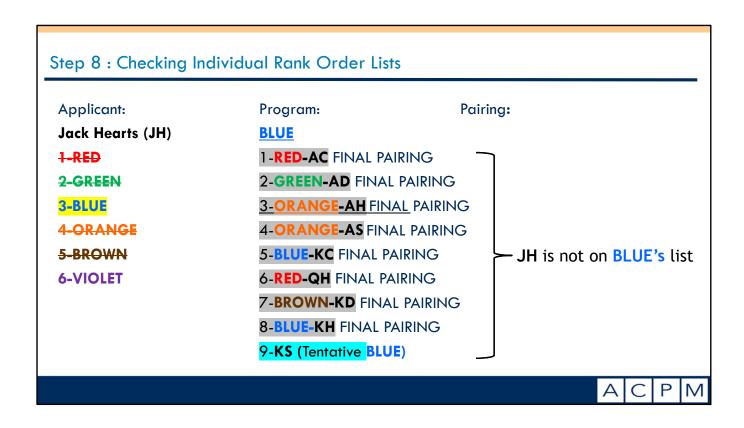
Next is **Jack of Hearts** which selects RED,



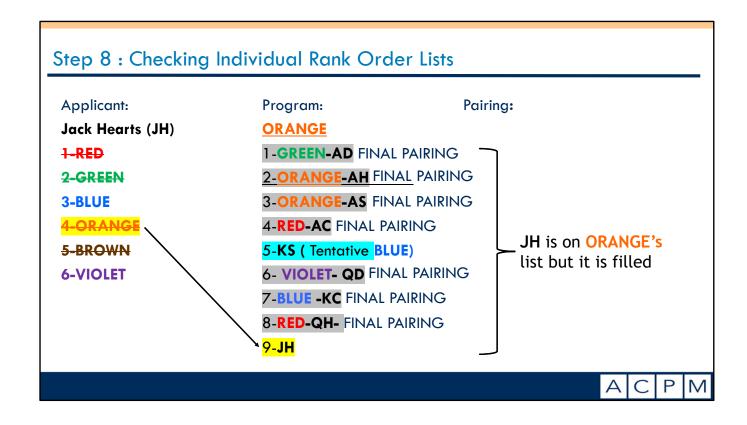
Jack of Hearts selects RED, but RED does not list JH on it's list, so JH goes to their next program



Jack of Hearts selected GREEN next, but is NOT on GREEN's list (and GREEN is full), so JH moves to their next program.



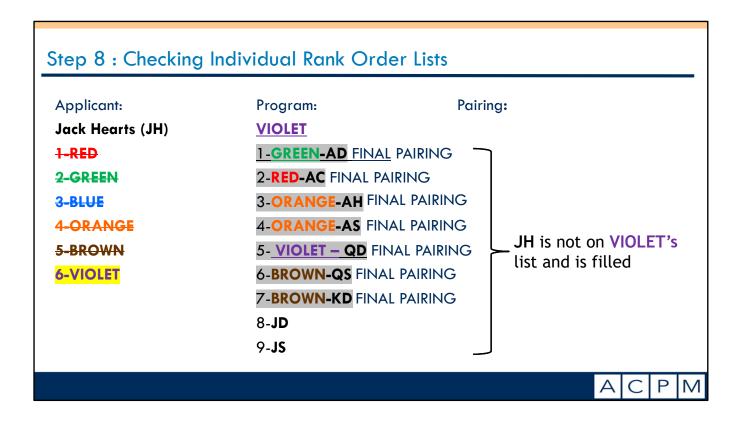
Jack of Hearts selects BLUE next, but JH was NOT on BLUE's list, so JH moves to their next program



Jack of Hearts selects ORANGE next, but JH is on ORANGE's list and ORANGE Is filled so JH Moves to their next program.



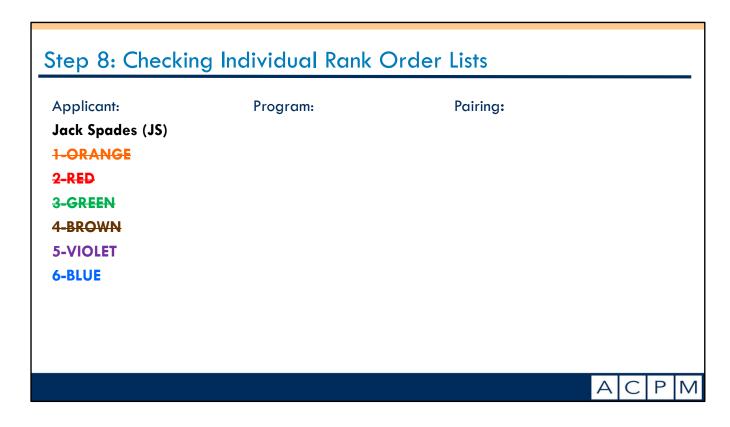
Jack of Hearts has selected BROWN next, but BROWN is now full and JH was not on BROWN's list, so JH moves to their next program



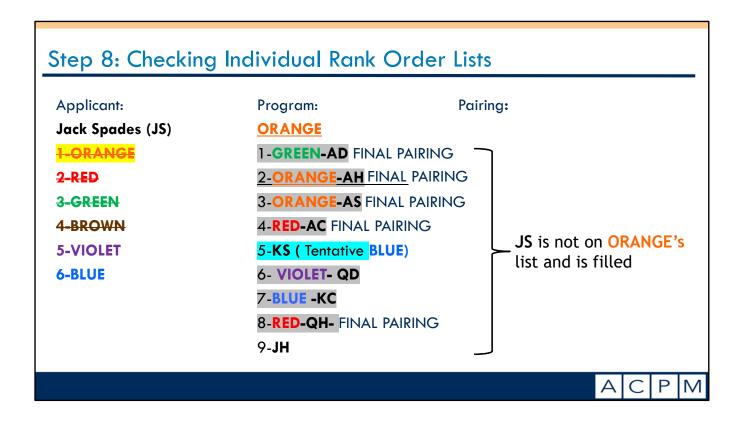
Jack of Hearts has selected VIOLET next, JH Is not on VIOLET's list and VIOLET is full.

Step 8 : Checking Individual Rank Order Lists Applicant: Program: Pairing: Jack Hearts (JH) 1-RED Jack Hearts (JH) PENDING 2-GREEN 3-BLUE 4-ORANGE 5-BROWN 6-VIOLET

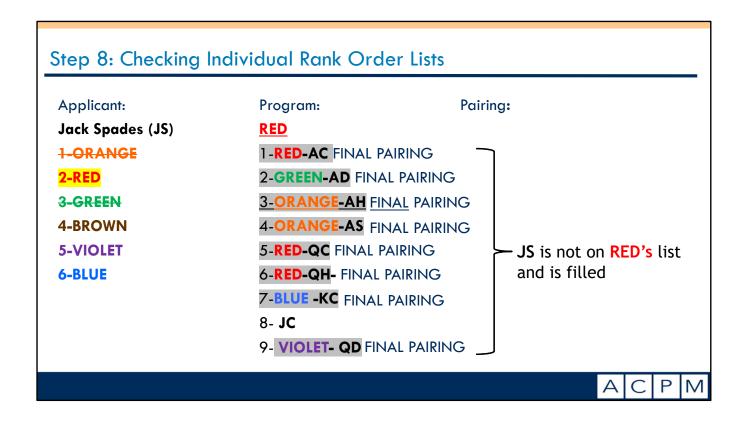
Jack of Hearts has run through its entire of list of programs. But since there is at least one applicant that has a TENTATIVE pair, JH is placed in the PENDING stack



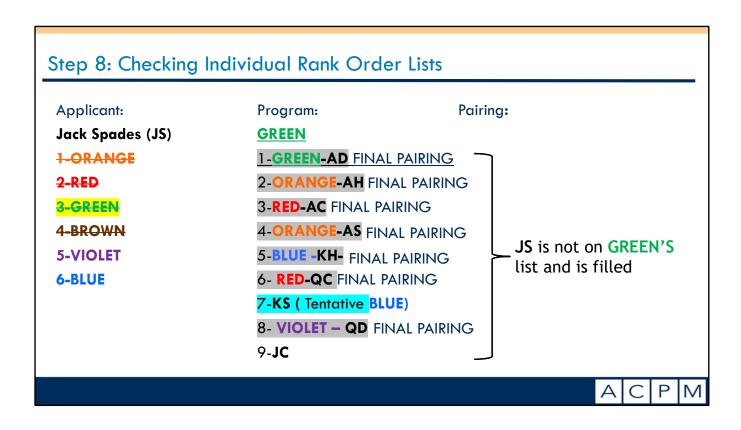
Next, we move to **Jack of Spades (JS)**



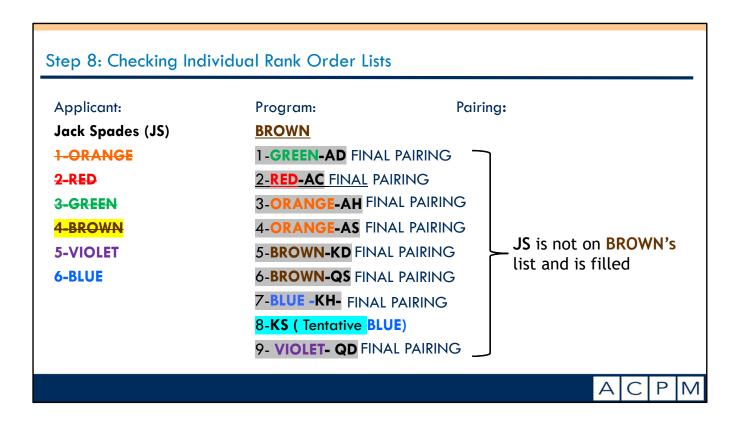
Jack of Spades selects ORANGE, which is not only filled, but does not list JS on it's list, so JS goes to the NEXT program on its list



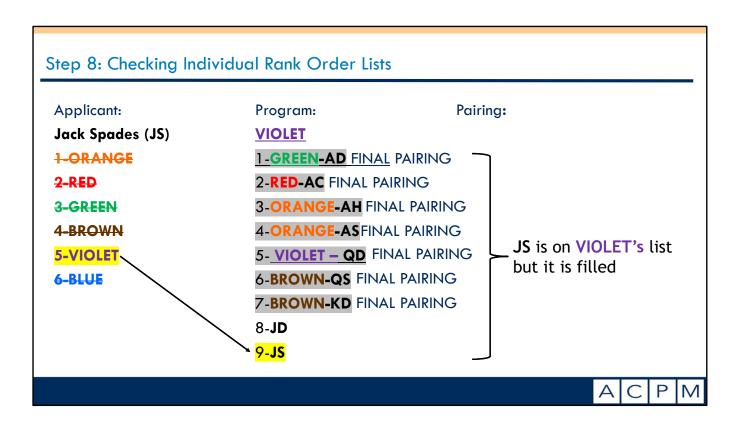
Jack of Spades selected RED next, but is NOT on RED's list, so JS moves to the next program



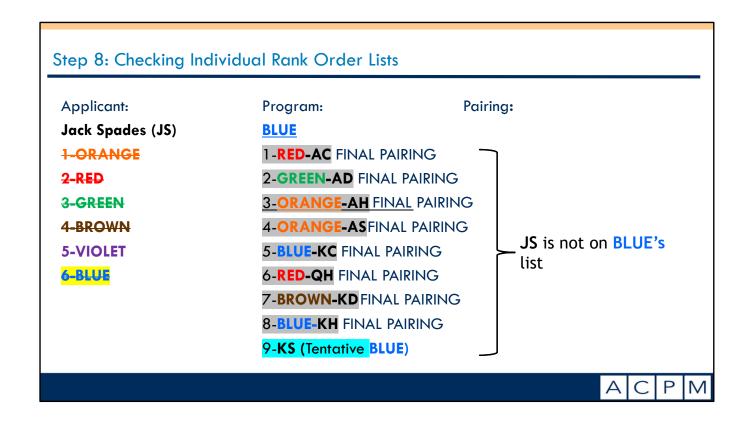
Jack of Spades selects GREEN next, but JS was NOT on GREEN's list, and GREEN is full, so JS moves to the next program



Jack of Spades selects BROWN next, but BROWN is now full (and JS was NOT on BROWN's list, so JS moves to the next program.



Jack of Spades has selected VIOLET next, and is on VIOLET's list, but at the bottom, but VIOLET only had one slot which is already filled with a higher-ranked applicant (QD) and hence JS moves to the next program on its list.



Jack of Spades has selected BLUE next, but was NOT on BLUE's list.

Step 8: Checking Individual Rank Order Lists Applicant: Program: Pairing: Jack Spades (JS) Jack Spades (JH) 1-ORANGE PENDING 2-RED 3-GREEN 4-BROWN 5-VIOLET 6-BLUE

JACK of Spades has gone through its entire list of programs without a pairing. Since there is at least one applicant who has a tentative pairing, JS is placed in the PENDING stack.

Step 8: Checking Individual Rank Order Lists

Summary of Round



Ace Clubs (AC)	Ace Diamonds (AD)	Ace Hearts (AH)	Ace Spades (AS)
1-RED	1-GREEN	1-ORANGE	1-ORANGE
2-GREEN	2-RED	2-GREEN	2-GREEN
3-ORANGE	3-ORANGE	3-RED	3-RED
4-BROWN	4-BROWN	4-BROWN	4-BROWN
5-BLUE	5-BLUE	5-BLUE	5-BLUE
6-VIOLET	6-VIOLET	6-VIOLET	6-VIOLET
	, and ABC =Did Not Pair.		

Individual Applicant Rank Order Lists (based on preferences noted previously) yellow=pair, crossed off/Strikethrough = Did Not Pair.

All ACES have been paired.

<mark>(ing Clubs (KC)</mark>	King Diamonds (KD)	King Hearts (KH)	King Spade (KS)
-ORANGE	1-ORANGE	1-GREEN	1-RED
-BROWN	2-BROWN	2-ORANGE	2-GREEN
-RED	3-RED	3-BROWN	3-ORANGE
-GREEN	4-GREEN	4-RED	4-BROWN
-BLUE	5-BLUE	5-BLUE	5-BLUE
-VIOLET	6-VIOLET	6-VIOLET	6-VIOLET

All KINGS except for king of Spades have a FINAL PAIR. King of Spades is tentatively matched with Blue.

Queen Clubs (QC)	Queen Diamonds	Queen Hearts (QH)	Queen Spade (QS)
1-ORANGE	(QD)	1-ORANGE	1-GREEN
2-RED	1-BLUE	2-BROWN	2-ORANGE
3-GREEN	2-BROWN	3-RED	3-BROWN
4-BROWN	3-RED	4-GREEN	4-RED
5-BLUE	4-GREEN	5-BLUE	5-BLUE
6-VIOLET	5-ORANGE	6-VIOLET	6-VIOLET
	6-VIOLET		

ALL QUEENS have FINAL PAIRINGS



ALL Jacks remain in PENDING stack since there is at least one Applicant that has a TENTATIVE pair

Step 8. Section 8: Specific Program Rank Order Lists – Summary of Round

BLUE [T=3, P=2, R=1]	BROWN [T=2, P=2, R=0]	GREEN [T=1, P=1, R=0]
1-AC	1-AD	<u>1-AD</u>
2- AD	2- AC	2- AH
<u>3-АН</u>	3- AH	3- AC
4-AS	4-AS	4- AS
<mark>5-КС</mark>	5- KD	5- KH
6-QH	6- QS	6- QC
7- KD	7- KH	7- KS
8- KH	8- KS	8- QD
9-KS	9- QD	9- JC

Includes number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically (Step 6.).

Yellow= FINAL Pair, ABC=Did Not Pair, and Aqua="Tentative".



Specific Program Rank Order Lists (based on preferences noted previously) with number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically. Yellow= Final pair, crossed off/Strikethrough = Did Not Pair.

Step 8. Section 8: Specific Program Rank Order Lists - Summary of Round RED [T=3, P=3, R=0] **ORANGE** [T=2, P=2, R=0] **VIOLET [T=1, P=1, R=0]** 1-AD 1-AC 1-AD 2-**AH** 2-AD 2-AC 3-**AS** 3-AH 3-AH 4-AC 4-AS 4-AS 5-**KS** 5-QC 5-**QD** 6-QD 6-QH 6-QS 7-**KC** 7-**KC** 7-**KD** 8-**JD** 8-**QH** 8-**JC** 9-**JH** 9-**QD** 9-**JS** Includes number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically (Step 6.). Yellow=Pair, ABC=Did Not Pair, and Aqua="Tentative".

All programs EXCEPT Blue have filled their slots with FINAL PAIRINGS

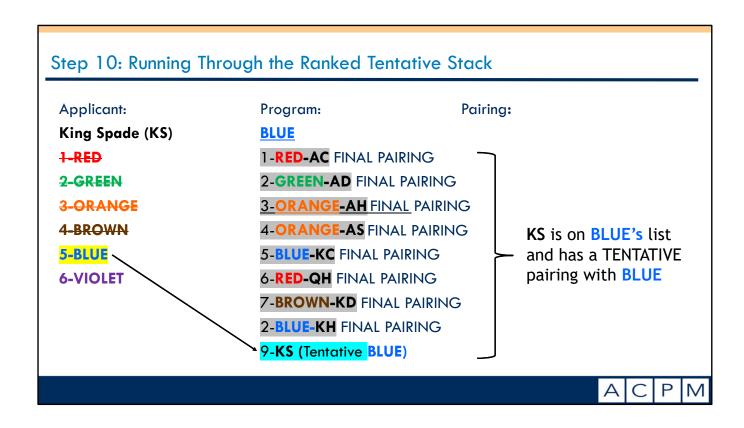
Step 10. Reviewing Tentative Stacks

Running Through the TENTATIVE Stack

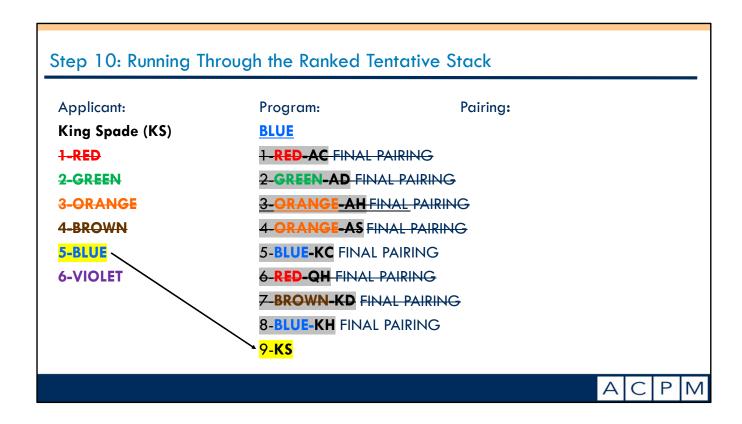


Next, we will be Running through the TENTATIVE Stack.

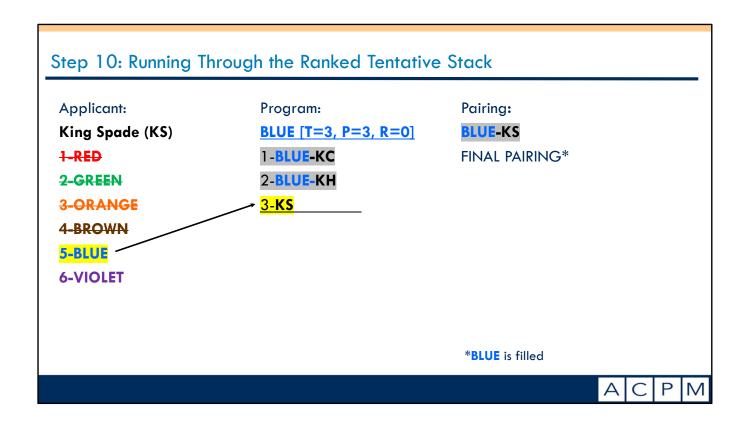
Since there is one applicant that already has a TENTATIVE pairing KS, we will first review this applicant once again to see if there are any changes.



Earlier in the process, King of Spades was TENTATIVELY PAIRED with BLUE. Even though KS is ranked last by BLUE, BLUE has three slots and only two final pairings



So this is a FINAL pairing and moved to the FINAL paring stack. BLUE is now full.

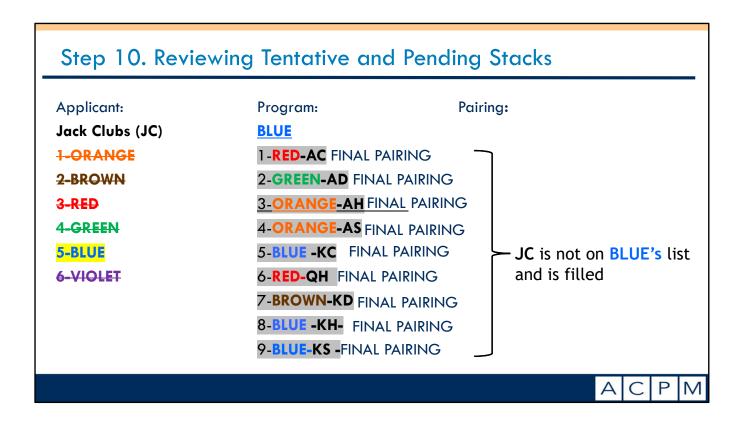


Step 11. Running Through the Ranked Pending Stacks

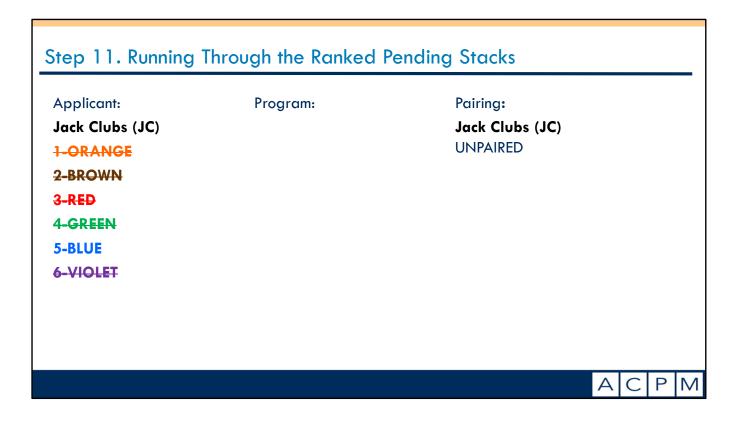
Running Through the PENDING Stack

A C P M

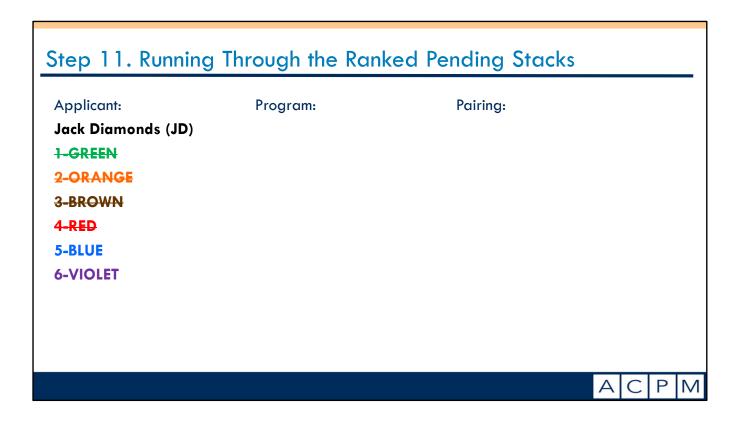
We will now review the Applicants (Jacks) in the PENDING Stack



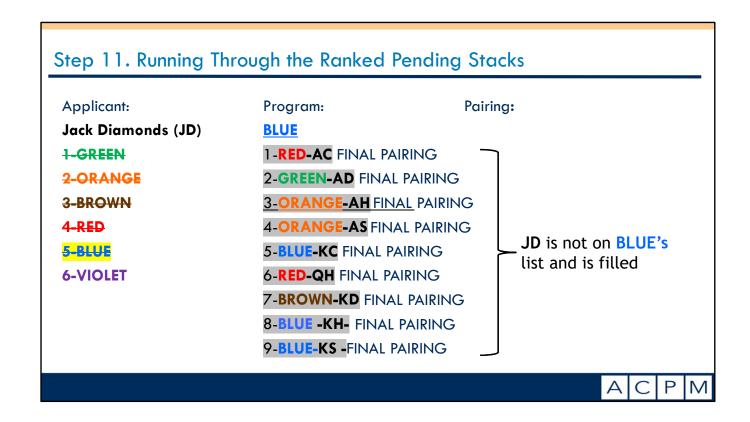
Jack of Clubs selects BLUE as its only remaining program not previously crossed off as full. but it is not on BLUE's list and BLUE is filled, with THREE FINAL PAIRINGS. JC remains UNPAIRED.



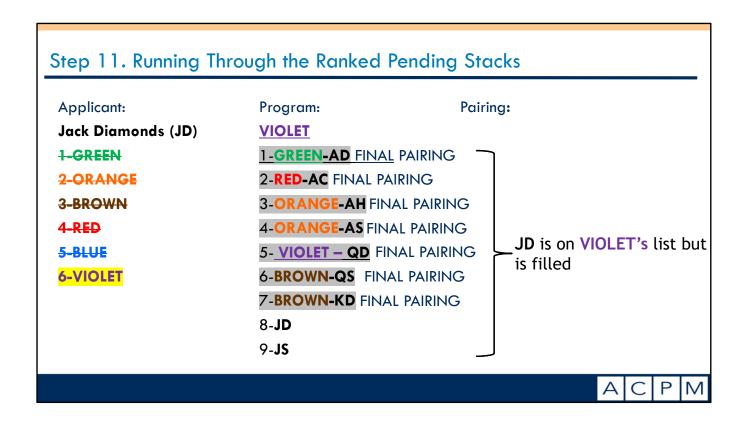
Since Jack of Clubs was not paired with any of the six programs and Jack of Clubs remains UNPAIRED



Next we look at Jack of Diamonds



Jack of Diamonds has selected BLUE next, but BLUE is now full.



Jack of Diamonds has selected VIOLET next, but JD is not on VIOLET's list and VIOLET is full. Jack of Diamonds has gone through all of its program on the list. JD is UNPAIRED.

Step 11. Running Through the Ranked Pending Stacks

Applicant: Program: Pairing:

Jack Diamonds (JD)

Jack Diamonds (JD)

1-GREEN UNPAIRED

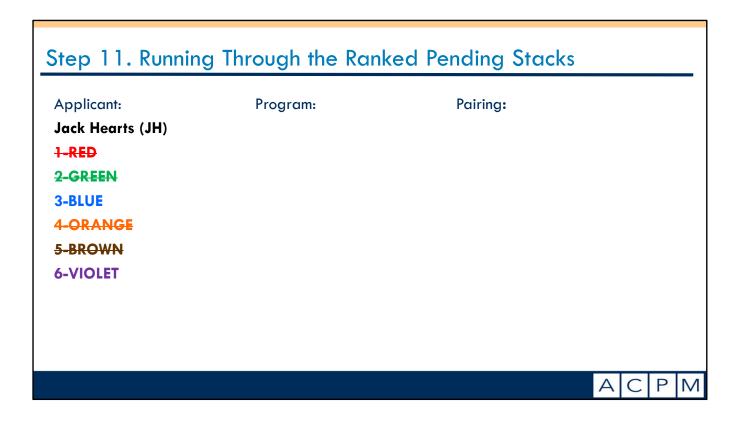
2-ORANGE

4-RED

3-BROWN

5-BLUE 6-VIOLET

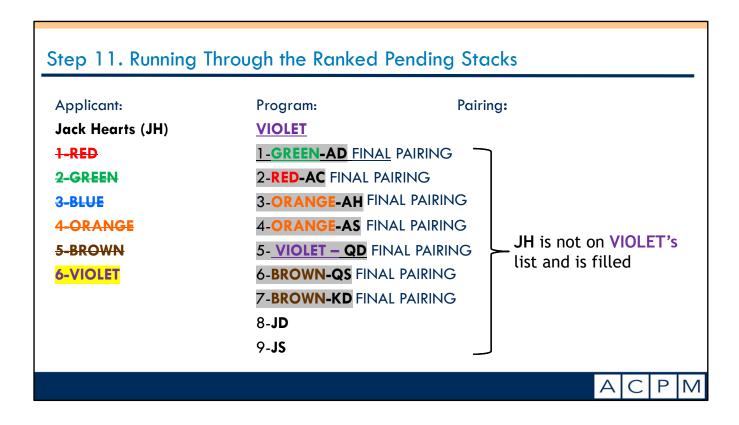
ACPM



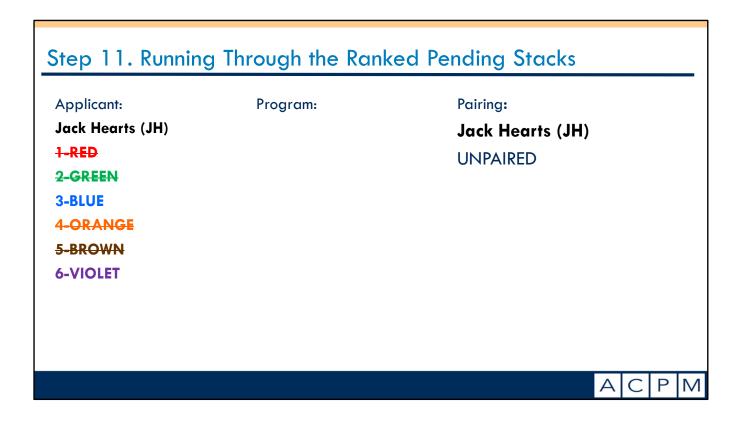
Next is Jack of Harts which has only BLUE and VIOLET remaining on its list.



Jack of Hearts selects BLUE next, but JH was NOT on BLUE's list, so JH moves to the next program VIOLET.



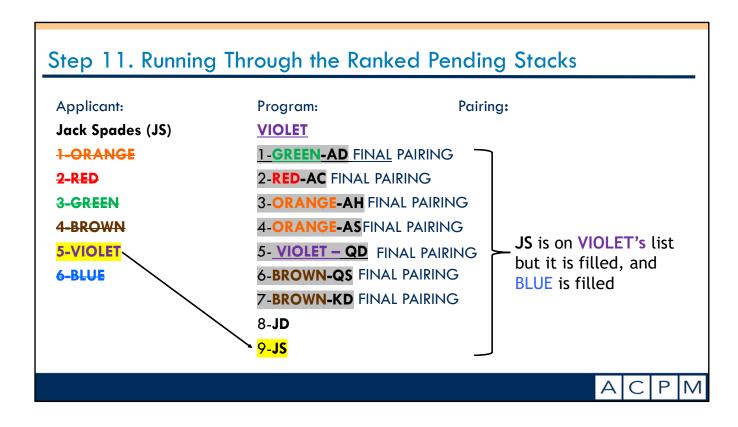
Jack of Hearts has selected VIOLET next, JH Is not on VIOLET's list and VIOLET is full.



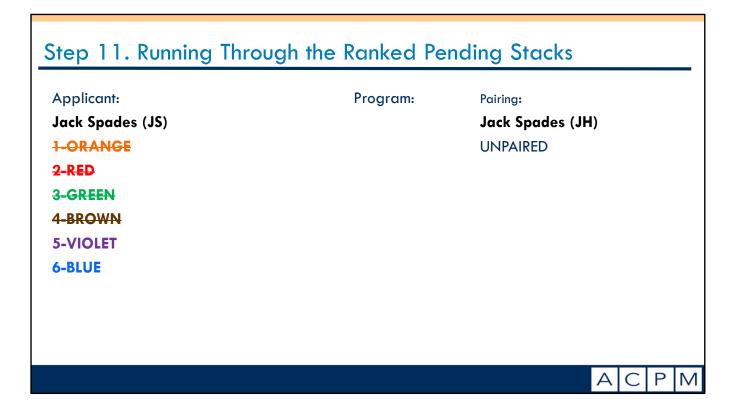
Jack of Hearts has run through its entire of list of programs. JH remains UNPAIRED



Next, we move to Jack of Spades, who also only has VIOLET and BLUE left on its list.



Jack of Spades has selected VIOLET next, and is on VIOLET's list, but at the bottom, but VIOLET only had one slot which is already filled with a higher-ranked applicant (QD), and BLUE has already filled.



JACK of Spades has done through its entire list of programs without a pairing. Jack of Spades remains Unpaired

Step 11. Running Through the Ranked Pending Stacks

Summary of Round



Ace Clubs (AC)	Ace Diamonds (AD)	Ace Hearts (AH)	Ace Spades (AS)
-RED	1-GREEN	1-ORANGE	1-ORANGE
-GREEN	2-RED	2-GREEN	2-GREEN
-ORANGE	3-ORANGE	3-RED	3-RED
-BROWN	4-BROWN	4-BROWN	4-BROWN
-BLUE	5-BLUE	5-BLUE	5-BLUE
-VIOLET	6-VIOLET	6-VIOLET	6-VIOLET
_			

No changes to ACES since the first round. All ACES have been paired.

Step 11: Reviewing Tentative and Pending Stacks – Summary of Round Jack Clubs (JC) Jack Diamonds (JD) Jack Spades (JS) Jack Hearts (JH) **1-ORANGE** 1-GREEN 1-RED **1-ORANGE** 2-ORANGE 2-RED 2-BROWN 2-GREEN 3-RED 3-BROWN 3-BLUE 3-GREEN 4-GREEN 4-RED 4-ORANGE 4-BROWN 5-BLUE 5-BLUE 5-BROWN 5-VIOLET 6-VIOLET 6-VIOLET 6-BLUE 6-VIOLET Yellow= FINAL Pair, and ABC=Did Not Pair.,

All Jacks are unpaired

Step 11: Reviewing Tentative and Pending Stacks – Summary of Round King Spade (KS) King Clubs (KC) King Diamonds (KD) King Hearts (KH) **1-ORANGE** 1-ORANGE 1-GREEN 1-RED 2-BROWN 2-ORANGE 2-BROWN 2-GREEN 3-RED 3-RED 3-BROWN **3-ORANGE** 4-GREEN 4-RED 4-BROWN 4-GREEN 5-BLUE 5-BLUE 5-BLUE 5-BLUE 6-VIOLET 6-VIOLET **6-VIOLET** 6-VIOLET Yellow=FINAL Pair, ABC=Did Not Pair, A C P M

ALL KINGS have FINAL PAIRS

Step 11: Reviewing Tentative and Pending Stacks – Summary of Round Queen Spade (QS) Queen Diamonds Queen Clubs (QC) Queen Hearts (QH) (QD) 1-ORANGE 1-ORANGE 1-GREEN 1-BLUE 2-ORANGE 2-RED 2-BROWN 2-BROWN **3-GREEN** 3-RED 3-BROWN 3-RED 4-BROWN 4-GREEN 4-RED 4-GREEN 5-BLUE 5-BLUE **5-BLUE** 5-ORANGE 6-VIOLET 6-VIOLET **6-VIOLET** 6-VIOLET Yellow= FINAL Pair, ABC=Did Not Pair, A C P M

ALL QUEENS HAVE FINAL PAIRS

NG	1-AD 2-AH 3-AC
	3- AC
c	
\S	4- AS
(<mark>D</mark>	5- KH
<mark>)S</mark>	6- QC
(H	7- KS
S	8- QD
QD	9- JC
	<mark>RS</mark> KH KS

Programs BLUE, BROWN and GREEN have all filled.

Step 11: Reviewing Tentative and Pending Stacks - Summary of Round RED [T=3, P=3, R=0] **VIOLET** [T=1, P=1, R=0] ORANGE [T=2, P=2, R=0] 1-AD 1-AC 1-AD 2-**AH** 2-AD 2-AC 3-**AS** 3-**AH** 3-AH 4-**AS** 4-AC 4-**AS** 5-**KS** 5-**QC** 5-**QD** 6-**QD** 6-QH 6-**QS** 7-KC 7-KC 7-**KD** 8-**JC** 8-**JD** 8-**QH** 9-**JH** 9-**QD** 9-**JS** Includes number of slots to be filled [T=Total, P=Paired, R=Remaining]. "Automatic First/Top Choice Pairing Zones" are demarcated with a line. The Programs are listed alphabetically (Step 6.). Yellow=Pair, ABC=Did Not Pair, and

Programs ORANGE, RED and VIOLET have all filled.

Step 11.

All slots in all programs are now filled. A cycling through the Pending Stack will leave the four **Jacks** without pairs/matches, and they are moved to the Unpaired Stack, a review of which will reveal that all programs filled prior to pairing/matching with the **Jacks**.

ACPM

All slots in all programs are now filled. A cycling through the PENDING stack will leave the four (4) JACKS without pairs/matches, and they are moved to the UNPAIRED stack, a review of which will reveal that all programs filled prior to pairing/matching with the JACKs.

12. Results: "Alphabetical Applicant List"

Ace Clubs (AC)-RED

Ace Diamonds (AD)-GREEN

Ace Hearts (AH)-ORANGE

Ace Spades (AS)-ORANGE

King Clubs (KC)-BLUE

King Diamonds (KD)-BROWN

King Hearts (KH)-BLUE

King Spades (KS)-BLUE

Jack Clubs (JC)

Jack Diamonds (JD)

Jack Hearts (JH)

Jack Spades (JS)

Queen Clubs (QC)-RED

Queen Diamonds (QD)-VIOLET

Queen Hearts (QH)-RED

Queen Spades (QS)-BROWN



All ACES, KINGS and QUEENS have been matched.

Results

- All 12 slots in the 6 programs were filled.
- 12 of 16 applicants were paired/matched into their highest mutually-ranked program.
- 4 of 16 applicants were left unpaired/unmatched, because there were no more slots to be filled.



All 12 slots in the 6 programs were filled. 12 of 16 applicants were paired/matched into their highest mutually-ranked program. 4 of 16 applicants were left unpaired/unmatched, because there were no more slots to be filled.