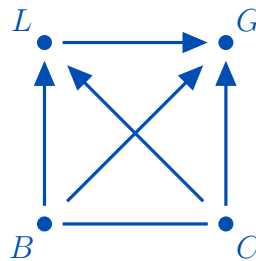


Quiz 1 Solutions!

Leslie Knope (L), Bob of Bob's Burgers (B), Chandler Bing (C), and Rory Gilmore (G) are competing for Queen/King of Netflix. The results are in:

7	2	5	4
<i>L</i>	<i>C</i>	<i>B</i>	<i>G</i>
<i>C</i>	<i>B</i>	<i>C</i>	<i>B</i>
<i>B</i>	<i>L</i>	<i>L</i>	<i>C</i>
<i>G</i>	<i>G</i>	<i>G</i>	<i>L</i>

1. (1 pt) Who is/are the winner(s) by plurality? *L* has the most first place votes.
2. (2 pts) Who is/are the winner(s) by the Runoff method? *B* and *L* enter the runoff election, which *B* wins 11-7.
3. (2 pts) Who is/are the winner(s) by the Instant Runoff/Elimination method? First *C* is eliminated with 2 first place votes, then *G* is eliminated with 4 first place votes. Only *B* and *L* remain, and *B* wins again.
4. (3 pts) Who is/are the winner(s) by the Pairwise Comparison method? **Show work** in the space below to justify your answer, by showing the results of all head-to-head battles or by constructing the comparison graph. *the unweighted pairwise comparison graph*:



From this, we see that *B* and *C* have 2.5 pairwise comparison points, *L* has 1 pt and *G* has zero. So *B* and *C* tie.

5. (1 pt) Is there a majority candidate? If so, who? No: there are no candidates with more than $N/2 = 18/2 = 9$ first place votes.
6. (1 pt) Is there a Condorcet candidate? If so, who? No: neither *B* nor *C* are Condorcet candidates because they do not win EVERY head-to-head battle.