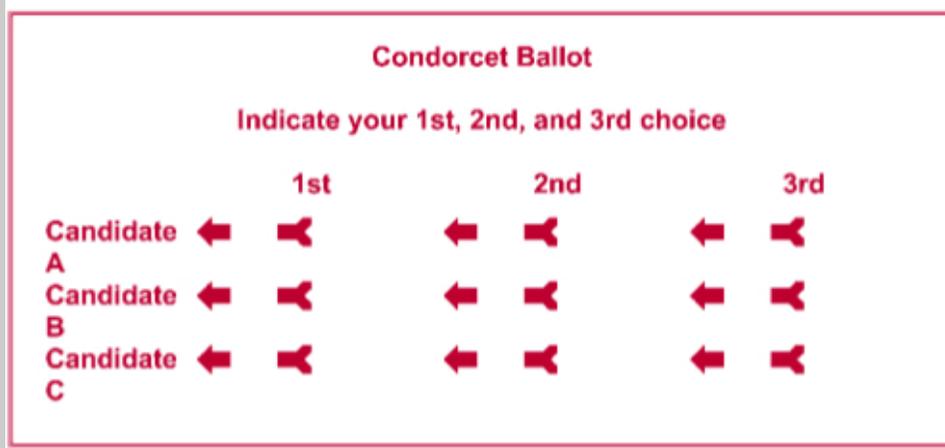


B.3 – Condorcet Elections

The Condorcet election system is a ranked method for selection of winners of single seat offices. A short discussion is provided in [Election Methods: Review of Alternatives and Oregon Proposals](#), with more details provided in the following discussion available online only.



Some mathematicians believe that the Condorcet system is superior to all others because it best identifies the candidate preferred over each of the other candidates, the "Ideal Democratic Winner."¹ Even though mathematician Donald Saari prefers the Borda Count system, he explains that the Condorcet system is the "standard used to compare other approaches."² We include this system in the study because many academic texts and journals refer to it as the "best" way to measure the will of the voters.

Marie Jean Antoine Nicolas Caritat, Marquis de Condorcet (1743 to 1794) was a French philosopher, mathematician, and early political scientist who is credited with inventing the Condorcet system of vote tabulation in elections,³ although recent findings in the Vatican Library prove that the real credit goes to thirteenth century scholar and poet Ramon Llull.⁴

From the point of view of voters, the Condorcet system is another ranked system. Voters rank the candidates, marking their first choice, second choice, third choice (or more, depending on the number of candidates); they do not have to rank all of the candidates. Under the Condorcet system, the winning candidate is the person who "can top each of the others in a series of head-to-head contests."⁵ The tabulation of votes, called "pairwise" contests by mathematicians, is more complicated than any of the other systems discussed in the study. The Condorcet winner is determined by pairwise comparisons of each candidate with all the other candidates.

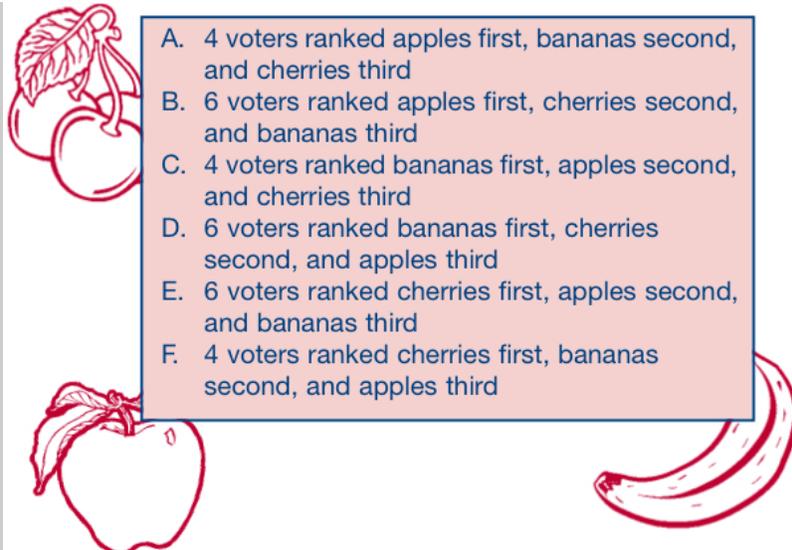
¹ "Technical Evaluation of Election Methods." Election Methods Education and Research Group. <http://www.electionmethods.org/evaluation.html>

² Ibid.

³ Donald Saari, *Basic Geometry of Voting*, (Berlin: Springer, 1995), 26.

⁴ Garfunkel, *All Practical Purposes*, 418-419.

⁵ "Alternative Single Winner Systems," Center for Voting and Democracy. May 2002. <http://www.fairvote.org/irv/various1.htm>



Imagine an election held by 30 members of the Association of Fruit Producers. They want to decide which fruit to emphasize in their upcoming marketing campaign. They are considering apples, bananas, and cherries. They decide to use the Condorcet system to select the winner. The vote turned out as follows:

First is a pairwise comparison between apples and bananas. Here is how it works: apples are preferred over bananas by 4 voters in line A, 6 voters in line B, and 6 voters in line E for a total of 16 votes. Bananas are preferred over apples by 4 voters in line C, 6 voters in line D, and 4 voters in line F for a total of 14 votes. Total: apples are preferred over bananas 16 to 14.

The next pairwise comparison is between apples and cherries. Cherries are preferred over apples by 6 voters in line D, 6 voters in line E, and 4 voters in line F for 16 votes. Apples are preferred over cherries by 4 voters in line A, 6 voters in line B, and 4 voters in line C for 14 votes. Total: cherries are preferred over apples 16 to 14.

The last pairwise comparison is between bananas and cherries. Cherries are preferred over bananas by 6 voters in line B, 6 voters in line E, and 4 voters in line F. Bananas are preferred over cherries by 4 voters in line A, 4 voters in line B, and 6 voters in Line D for a total of 14 votes. Total: cherries are preferred over bananas 16 to 14.

Bananas does not win any of the pairwise comparisons. Apples win only one pairwise comparison—against bananas. Cherries wins two pairwise comparisons—against bananas and apples, so cherries is the Condorcet winner.

Although the pairwise comparisons of tallying votes is more difficult to follow, the use of computers and computer software makes the actual tabulation of votes in an election no more difficult than the tabulation in the other voting systems. However, the Condorcet system does not always produce a winner. As a result, election officials must decide before the election on a method to break a tie.⁶

- Courtesy of League of Women Voters of Minnesota

⁶ Steven Brams and Peter Fishburn. *Approval Voting* (Boston: Burkhauser, 1983), 36-37.