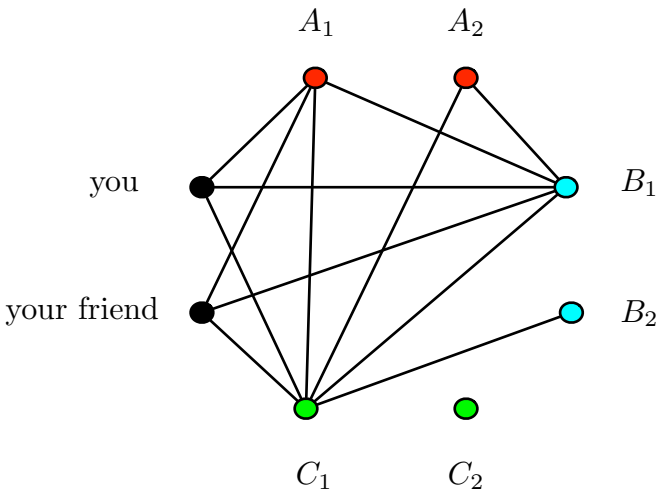
▶ **Problem 9.1-7**

You and a friend meet three other couples at a party and several handshakes take place. Nobody shakes hands with himself or herself, there are no handshakes within couples, and no one shakes hands with the same person more than once. The number of hands shaken by the other seven people (excluding you) are all different. How many hands did you shake? How many hands did your partner shake? Use a graph to aid your solution.

Solution. Suppose that the other three couples are labeled by A_1 and A_2, B_1 and B_2, and C_1 and C_2. The solution is that you shook three hands, and your friend also shook three hands (see the following figure for illustration).



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