CSE708 Coding Assignment 3

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- **Problem Description:** You will be given a graph $G = (V, E)$ with $n = |V| \leq 20$. Alice and Bob play a game on this graph. Alice makes the first move. She picks a vertex. Bob makes the second move. He has to choose a vertex that is adjacent to the one Alice chose. Then Alice makes her move again picking another vertex that is adjacent to the one Bob chose. The game ends when one player can't choose a vertex and that player loses and the other player wins. Alice and Bob both play optimally. Both of them want to win. So, if there is any winning strategy, they will use it. Your job is to answer whether Alice will win the game or Bob will win the game given that both of them play optimally.

- **Input:** In the first line, you will be given two integers $|V|$ and $|E|$. Then follows $|E|$ additional lines each containing 2 integers a and b meaning there is an edge between vertex with label a and vertex with label b and also, $1 \leq a, b \leq |V|$.

- **Output:** Print Alice if Alice wins. Else, print Bob.

- **Sample Input:**
  Case 1:
  6 6
  1 2
  2 3
  3 5
  2 6
  5 6
  4 6
  Case 2:
  3 2
  1 2
  2 3

- **Sample Output:**
  Case 1:
  Bob

Case 2:
Alice

- **Submission and Deadline:** Zip the "code.cpp" in a folder called with the format "id_name". For example, "19201111_MD_ZAHIDUL_HASAN". And mail me at: zadid.hasan@bracu.ac.bd before september 28, 2020. The subject of the mail should be "CODE_3" without the quotes.