CS 325 - Activity 6

You may work in groups with up to 3 students. When submitting solutions in Gradescope select a page for each problem and the students in your group.

Written: (5 pts)

The Wrestler Problem: Suppose there are two types of professional wrestlers: "Babyfaces" ("good guys") and "Heels" ("bad guys"). Between any pair of professional wrestlers, there may or may not be a rivalry. Suppose we have n wrestlers and we have a list of m pairs of rivalries.

a) Give a written description of an algorithm that determines whether it is possible to designate some of the wrestlers as Babyfaces and the remainder as Heels such that each rivalry is between a Babyface and a Heel. If it is possible output Possible otherwise output Impossible.
b) Give pseudocode for your algorithm
c) What is the running time of your algorithm?

Code: (10 pts)

Implement your algorithm for Babyfaces vs Heels in C++.

Input: The input contains the number of wrestlers, n (1,..,n) , followed by the number of rivalries m and rivalries listed in pairs, x y where $1 \leq x, y \leq n$ and $x \neq y$.

Output: Results are outputted to the terminal.

- Possible or Impossible

Sample:

Input:

```
4
4
1 2
1 3
4 2
4 3
```

Output:

```
Possible
```

You can use the code template provided. The name of file you submit to Gradescope must be **act6.cpp**. You may submit multiple times. Select all group member names each time you submit and also include the names of the group member in your comments.