July 2023 CSE 208
Online 3 Max Flow Set 1

Time: 25min Mark: 10

Statement:

Imagine you are the matchmaker for a matrimonial service. Your objective is to find the maximum matches possible based on certain criteria identified through their bio-data. After reading through all the bio-data you found the following criteria set by the candidates:

- No man will marry a woman if the gap in their heights exceeds 10 inches.
- No woman is willing to marry a man if the age difference surpasses 5 years.
- Of-course a single man can marry a single woman and vice versa.

Given the bio-data/information of a group of men and women, your task is to find the maximum matches possible between them and print the matches.

Input:

First line will contain two integers m, n ($1 \leq m, n \leq 50$) denoting the number of men and women. Each of the next m lines will contain the information for a man, and each of the next n lines will contain the information for a woman. An information will contain three integers denoting the height in inches, age in years and ID of a man or woman.

Assume that Height will be between 50 and 80, age will be between 20 and 50.

Output:

First line should print an integer A denoting the maximum number of matches you can make. Next A lines should print each match in the format given in samples.

Sample input/output:

Sample input	Sample output
2 2 70 30 1 60 20 2 71 25 1 71 35 2	1 Man 1 - Woman 1
4 3 50 20 1 60 25 2 72 30 3 75 35 4 55 18 1 70 25 2 81 30 3	3 Man 1 – Woman 1 Man 2 – Woman 2 Man 3 – Woman 3 (or Man 4 – Woman 3)