Problem G
Grouping

Time limit: 5 seconds
Memory limit: 2048 megabytes

Problem Description

In a small village, there are n villagers who share m mutual friendships. Each friendship (u, v, w) indicates that villager u and villager v are friends with a friendship value of w.

As the organizer of an upcoming festival, you want to maximize the overall enjoyment score while ensuring the participation of as many villagers as possible by pairing them up. However, achieving both objectives simultaneously seems challenging. Hence, you need to:

1. Determine the maximum festival enjoyment score under the maximum number of pairs.
2. Determine the maximum number of pairs under the maximum festival enjoyment score.

Input Format

The first line contains two integers n and m, denoting the number of villagers and friendship relationships, respectively. The subsequent m lines each contain three integers u, v, and w, representing friendships between villagers u and v with a friendship value of w.

Output Format

The output consists of two lines. The first line contains two integers representing the maximum number of pairs and the maximum festival enjoyment score achievable under the maximum number of pairs. The second line contains two integers representing the maximum festival enjoyment score achievable and the maximum number of pairs under the maximum festival enjoyment score achievable.

Technical Specification

- $2 \leq n \leq 20$
- $1 \leq m \leq \frac{n \times (n-1)}{2}$
- $1 \leq u, v \leq n$
- $1 \leq w \leq 10^6$

Sample Input 1

```
4 3
1 2 3
2 3 9
3 4 2
```

Sample Output 1

```
2 5
9 1
```

Sample Input 2

```
6 6
1 3 4
2 3 5
3 4 200
4 5 6
4 6 7
1 6 1
```

Sample Output 2

```
3 12
201 2
```