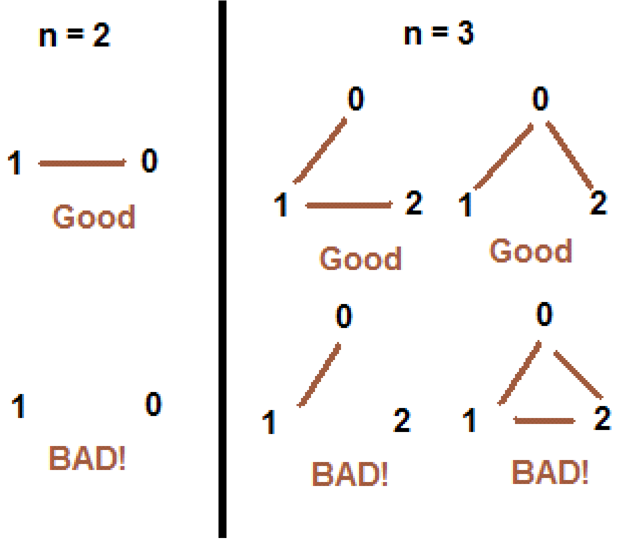
B Falling Pineapple From Sky

In Year XXXX, 20th February, a giant pineapple suddenly appears just above the earth, and it is going to fall. While everyone thinks this is the end of the earth, you find that there is a secret magic book just under your bed. This book tells you there is a city-wise magic drawing, called “the **tree** of life”, which can destroy the incoming pineapple.

After you understand what “the tree of life” means, you realize you need to do this:

1. You must connect **n** cities with special paint specified with the book.
2. The finishing magic drawing **SHOULD NOT contain a cycle.** Otherwise the magic power will only circulate within the drawing, but not releasing.

The figure below shows what the good magic drawing means and the bad magic (with cycle or not all cities are connected) drawing means.



3. The book also tells you **m pairs** of cities which can be connected by a magic line.

As time is running short, you can only gather a limited resource to make the paint. You know what the cost of drawing a magic line between two cities is. You want to know **the minimum cost** to complete a **tree** of life. As a smart programmer, you use the algorithm proposed by Joseph Kruskal Jr, and you are going to implement this algorithm.

Input

The first input of each case begins with integers n and m with **$1 < n \le 1000$** and **$0 \le m \le 25000$** where **n** is **the number of cities** and **m** is **the number of links** specified in the magic book. Following this are **m lines** containing **three integers** u, v, and w describing a cost w magic line connecting city u and v where $0 \le u, v < n$ and $0 \le w < 2^{31}$. Input is terminated with a line containing n = m = 0; this case should not be processed. You may assume no two lines have the same cost and no two cities are directly connected by more than one edge.

Output

For each case, output:

1. If the tree of life is made, output the minimum cost to make this.
   Then on the next line, output the cost of unused lines (which will make cycle in the tree of life) in increasingly order, separating a space **in between**. If there is no unused line, simply output a blank line below the minimum cost.
2. If the tree of life **cannot be done**, output "**\(^o^)/ pray to god**" without quotation mark.

*It is guaranteed that all answers are within 32bits signed-integer.

Sample Input

```
3 3
0 1 1
1 2 2
2 0 3
4 5
0 1 1
1 2 2
2 3 3
3 1 4
0 2 0
3 2
0 1 1
0 2 2
3 1
0 1 1
3 1
0 1 1
0 0
```

Output for Sample Input

```
Min cost: 3
3
Min cost: 4
2 4
Min cost: 3

\(^o^)/ pray to god
\(^o^)/ pray to god
```