# Taxes in Leaf Village

Max. Marks: 100

Naruto is going to take part in another difficult mission. This time he has to chase Sasuke and bring him back to the Leaf Village.

The mission is very expensive so Hokage of Leaf Village has to accumulate as much money as she can. Fortunately, there is a great opportunity for that. The Hokage of Leaf Village wants to put at most $K$ security cameras on road junctions in the city. There are $N$ junctions in Leaf Village and $M$ undirected roads between them. It is possible to go from any junction to any other one using a sequence of roads. When a camera is placed on a junction, it can watch all roads incident to that junction. When a road between junctions $u$ and $v$ is watched by at least one camera, it causes that $c(u, v)$ more tax is paid by the people who live by this road, because they start felling more secure. However, for some roads $(u, v)$, the value $c(u, v)$ can be negative. This happens when they are more people living by this road who want more privacy, especially if criminals live there. The Hokage of Leaf Village wants to put at most $K$ security cameras on junction in such a way that the sum of values $c(u, v)$ for all roads watched by at least one security camera is maximized. If Naruto helps them with this problem, he can take half of the profit and spend it for his upcoming mission. He is a hyperactive, knucklehead ninja, but not so good with algorithms and math, so he asks you for help in maximizing the profit from taxes in Leaf Village.

**Constraints:**

$1 \le N \le 500$
$1 \le M \le 124750$
$1 \le K \le N$
$1 \le u, v \le N$
$-998 \le c(u, v) \le 1000$
there is at most one road between each pair of junctions
each road connects two different junctions

**Input format:**

In the first line there are three space separated integers $N, M$ and $K$ denoting respectively the number of junctions in Leaf Village, the number of roads between them and the maximum number of security cameras to place on junctions. $M$ lines follow. Each of them consists of three space separated integers $u, v, c(u, v)$ denoting that there is a road between junctions u and v with tax change equal to c(u, v).

**Output format:**

In the first line output a single integer $S$ denoting the number of security cameras you want to place on junctions. In the second line output $S$ space separated integers denoting the junctions in which you want to place security cameras. All printed junctions have to be distinct.

**Scoring:**

The score for a test cases is computed in the following way. If the number security cameras placed is greater than $K$ then the result is Wrong Answer. Otherwise, the absolute score is maximum from 0 and the sum of values $c(u,v)$over all roads $(u,v)$ incident with at least one junction with a security camera. The final score is the absolute score divided by the average number of roads adjacent to a junction in the test cases multiplied by $K$ and multiplied by $\max(1, avg_c)$, where $avg_c$ is the average tax change taken over all roads.

**Tests generation:**

In all test cases, values $c(u,v)$ are chosen independently and uniformly at random from a range $(-998, 1000)$.

**(Method A)** In 90% of test cases the roads between the junctions are generated in the following way. Let $N$ be the number of junctions and $M$ be the number of roads between them. Then roads are generated as follows.

```
While there are less than M roads generated:
     u = random_junction
     v = random_junction
     if u != v and road (u, v) is not already generated:
        add road (u, v) to generated roads
```

**(Method B)** In the remaining 10% of test cases the method of generating the roads between the junctions is not public. Moreover, **in some of these test cases the maximum possible profit can be computed within the given Time Limit.**

SAMPLE INPUT

```
4 4 1
1 2 10
2 3 20
3 4 30
4 1 30
```

SAMPLE OUTPUT

```
1
4
```

**Explanation**

In the sample there are $4$ junctions and $4$ roads between them. Moreover, there can be at most one security camera placed. If it is placed on junction $4$, then the profit is equal to $c(4,3) + c(4,1) = 30 + 30 = 60$, so the absolute score for this test case and provided output is $60$. The final score will be then $60/(2 \cdot 1 \cdot 22.5) = 1.33$