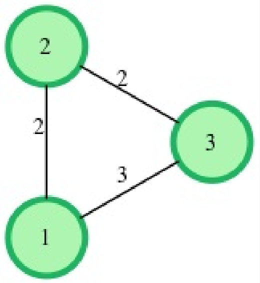
Given a graph which consists of several edges connecting its nodes, find a subgraph of the given graph with the following properties:

- The subgraph contains all the nodes present in the original graph.
- The subgraph is of minimum overall weight (sum of all edges) among all such subgraphs.
- It is also required that there is **exactly one, exclusive** path between any two nodes of the subgraph.

One specific node S is fixed as the starting point of finding the subgraph using Prim's Algorithm.
Find the total weight or the sum of all edges in the subgraph.



For example, consider a graph with 3 nodes. Possible edges are $1 \leftrightarrow 2$ weight 2, $2 \leftrightarrow 3$ weight 2 and $1 \leftrightarrow 3$ weight 3. Starting from node 1, we select the lower weight path, i.e. $1 \leftrightarrow 2$, weight 2. From node 2, there is only one path left, $2 \leftrightarrow 3$ weight 2. We have all nodes connected at a cost of $2 + 2 = 4$.

Function Description

Complete the *prims* function in the editor below. It should return and integer that represents the minimum weight to connect all nodes in the graph provided.

prims has the following parameter(s):

- *n*: an integer that represents the number of nodes in the graph
- *edges*: a two-dimensional array where each element contains three integers, two nodes numbers that are connected and the weight of that edge
- *start*: an integer that represents the number of the starting node

Input Format

The first line has two space-separated integers n and m, the number of nodes and edges in the graph.

Each of the next m lines contains three space-separated integers x, y and r, the end nodes of $edges[i]$, and the edge's weight.
The last line has an integer $start$, denoting the starting node.

Constraints

$2 \leq n \leq 3000$
$1 \leq m \leq (n * (n-1))/2$
$1 \leq x, y, start \leq n$
$0 \leq r \leq 10^5$
There may be multiple edges between two nodes.

Output Format

Print a single integer denoting the total weight of the subgraph.

Sample Input 0

```
5 6
1 2 3
1 3 4
4 2 6
5 2 2
2 3 5
```

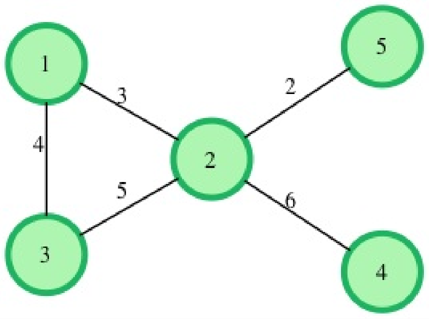
```
3 5 7
1
```

Sample Output 0

```
15
```

Explanation 0

The graph given in the test case is shown as :



- The starting node is 1 (in the given test case)

Applying the Prim's algorithm, edge choices available at first are :

$1 \rightarrow 2$ ($\textbf{WT. 3}$) and $1 \rightarrow 3$ ($\textbf{WT. 4}$) , out of which $1 \rightarrow 2$ is chosen (smaller weight of edge).

Now the available choices are :

$1 \rightarrow 3$ ($\textbf{WT. 4}$) , $2 \rightarrow 3$ ($\textbf{WT. 5}$) , $2 \rightarrow 5$ ($\textbf{WT. 2}$) and $2 \rightarrow 4$ ($\textbf{WT. 6}$) , out of which $2 \rightarrow 5$ is chosen by the algorithm.

Following the same method of the algorithm, the next chosen edges , sequentially are :

$1 \rightarrow 3$ and $2 \rightarrow 4$.

Hence the overall sequence of edges picked up by Prim's are:

$1 \rightarrow 2 : 2 \rightarrow 5 : 1 \rightarrow 3 : 2 \rightarrow 4$

and the total weight of the MST (minimum spanning tree) is : $3 + 2 + 4 + 6 = 15$