

Problem Statement

You will be given N numbers of nodes, E numbers of edges in a graph. For each edge you will be given A , B and W which means there is a connection from A to B only and for which you need to give W cost. The value of nodes could be from 1 to N .

You will be given a source node S . Then you will be given a test case T , for each test case you will be given a destination node D . You need to tell the minimum cost from source node to destination. If there is no possible path from S to D then print **Not Possible**.

Note: If there is a negative weight cycle in the graph, then no answer would be correct. So print one line only - "**Negative Cycle Detected**".

Input Format

- First line will contain N and E .
- Next E lines will contain A , B and W .
- Next line will contain source node S .
- Next line will contain T , the number of test cases.
- For each test case, you will get D .

Constraints

1. $1 \leq N \leq 10^3$
2. $1 \leq E \leq 10^6$
3. $1 \leq S \leq N$
4. $1 \leq T \leq 10^3$
5. $1 \leq D \leq N$
6. $-10^9 \leq W \leq 10^9$

Output Format

- Output the minimum cost for each test case.

Sample Input 0

```
5 7
1 2 10
1 3 -2
3 2 1
2 4 7
3 4 -3
4 5 5
2 5 2
```

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

Sample Output 0

```
0
-1
-2
-5
0
```

Sample Input 1

```
5 7
1 2 10
1 3 -2
3 2 1
2 4 7
3 4 -3
4 5 5
2 5 2
5
5
1
2
3
4
5
```

Sample Output 1

```
Not Possible
Not Possible
Not Possible
Not Possible
0
```

Sample Input 2

```
5 8
1 2 -2
1 3 -10
3 2 1
2 4 7
4 3 -3
4 5 5
2 5 2
4 1 1
1
5
1
2
3
4
5
```

Sample Output 2

Negative Cycle Detected