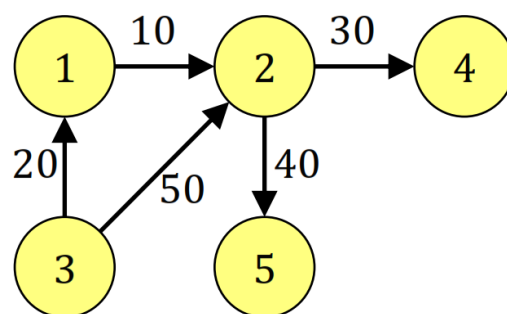


# Mê cung



## Example



### Input:

5 5 7  
1 2 10  
3 1 10  
2 4 30  
2 5 40  
3 2 50  
X 1  
X 4  
Y 1 4  
X 3  
Y 3 4  
Y 5 3

**Output:**

40

60

-1