

# Minimum Multiplications to reach End

Given **start**, **end** and an array **arr** of **n** numbers. At each step, **start** is multiplied with any number in the array and then mod operation with **100000** is done to get the new start.

Your task is to find the minimum steps in which **end** can be achieved starting from **start**. If it is not possible to reach **end**, then return **-1**.

## Example 1:

### Input:

```
arr[] = {2, 5, 7}
start = 3, end = 30
```

### Output:

2

### Explanation:

```
Step 1: 3*2 = 6 % 100000 = 6
Step 2: 6*5 = 30 % 100000 = 30
```

## Example 2:

### Input:

```
arr[] = {3, 4, 65}
start = 7, end = 66175
```

### Output:

4

### Explanation:

```
Step 1: 7*3 = 21 % 100000 = 21
Step 2: 21*3 = 63 % 100000 = 63
Step 3: 63*65 = 4095 % 100000 = 4095
Step 4: 4095*65 = 266175 % 100000 = 66175
```

**Your Task:**

You don't need to print or input anything. Complete the function **minimumMultiplications()** which takes an integer array **arr**, an integer **start** and an integer **end** as the input parameters and returns an integer, denoting the minimum steps to reach in which **end** can be achieved starting from **start**.

**Expected Time Complexity:**  $O(10^5)$

**Expected Space Complexity:**  $O(10^5)$

**Constraints:**

- $1 \leq n$  and  $n \leq 10^4$
- $1 \leq \text{arr}[i]$  and  $\text{arr}[i] \leq 10^4$
- $1 \leq \text{start}, \text{end} < 10^5$