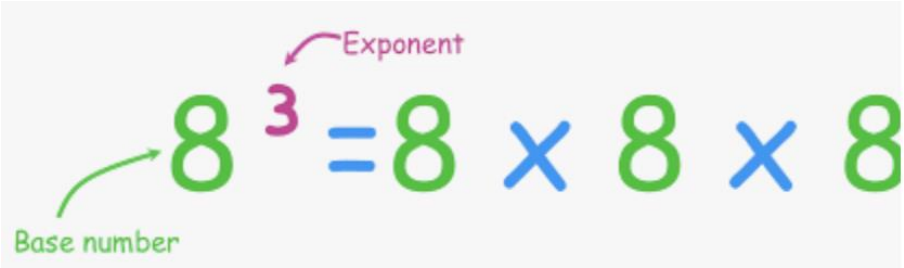
1. Exponent using while loop

Complete the following code snippet in order to find the exponent, i.e. the number of times **base** should be multiplied by itself to get **num**.

```
num=16
base=4
cnt=0
while(num>1):
  ?????
  cnt+=1
print(cnt)
```

Which of the options can be used in place of blank(**?????)** in order to get the power value?

An image to illustrate what exponent and base number mean:



Note - Assume that we can always get num by multiplying a base by 1 positive number of times.

Choose the correct answer from below:

A. num -= base
B. num /= base
C. num *= base
D. num += base

2. Easy Power

Problem Description

You are given two integers **A** and **B**. You have to find the value of A^B.

NOTE: The value of A^B will always be less than or equal to 10^9.

You are not allowed to use ** operator or pow() function.

Problem Constraints

1 <= **A, B** <= 1000

Input Format

First line of the input contains a single integer **A**.

Second line of the input contains a single integer **B**.

Output Format

Print a single integer in single line.

Example Input

Input 1:

```
2
3
```

Input 2:

```
1
10
```

Example Output

Output 1:

```
8
```

Output 2:

```
1
```

Example Explanation

Explanation 1:

```
For A = 2 and B = 3, the value of 2^3 = 2 * 2 * 2 = 8.
```

Explanation 2:

```
For A = 1 and B = 10, the value of 1^10 = 1.
```

3. Sum the digits – **DO NOT USE FOR LOOP**

Problem Description
Take T (number of test cases) as input. For each test case, take integer N as input and Print the sum of digits of that number.

Problem Constraints

```
1 <= T <= 1000
0 <= N <= 100000000
```

Input Format

```
The first line is T which means the total number of test
cases. Each of the next T lines contain an integer N.
```

Output Format

```
T lines each containing one integer representing the sum of
the digits of the input integer.
```

Example Input

```
Input 1:
2
5
1001
Input 2:
2
123
1589
```

Example Output

```
Output 1:
5
2
Output 2:
6
23
```

Example Explanation

```
Explanation 1:
5 has only 1 digit hence sum is 5.
Sum(1001) = 1+0+0+1 = 2.
Explanation 2:
Sum(123) = 1+2+3 = 6.
Sum(1589) = 1+5+8+9 = 23.
```

4. Multiplication Table! – **DO NOT USE 'f-string' IN THIS EXAMPLE**

Problem Description

Take a number **A** as input, print its multiplication table having the first 10 multiples.

Problem Constraints

1 <= **A** <= 1000

Input Format

First line contains a single integer **A**.

Output Format

Print **10** lines, i^{th} line containing i^{th} multiple.

Example Input

Input 1:

```
 2
```

Input 2:

```
 3
```

Example Output

Output 1:

```
2 * 1 = 2
2 * 2 = 4
2 * 3 = 6
2 * 4 = 8
2 * 5 = 10
2 * 6 = 12
2 * 7 = 14
2 * 8 = 16
2 * 9 = 18
2 * 10 = 20
```

Output 2:

```
 3 * 1 = 3
 3 * 2 = 6
 3 * 3 = 9
 3 * 4 = 12
 3 * 5 = 15
 3 * 6 = 18
 3 * 7 = 21
 3 * 8 = 24
 3 * 9 = 27
 3 * 10 = 30
```

Example Explanation

Explanantion 1:

```
 For A = 2, First 10 multiples of 2 are 2, 4, 6, 8, 10, 12,
14, 16, 18, 20
```

Explanation 2:

```
 For A = 3, First 10 multiples of 3 are 3, 6, 9, 12, 15, 18,
21, 24, 27, 30
```

5. **Count the digits – Poblem Description**

Take T (number of test cases) as input.
For each test case, take integer N as input and Print the count of digits of that number.
Note: **No of digits for number 0 is considered as 1.**

Problem Constraints

```
1 <= T <= 100
0 <= N <= 100000000
```

Input Format

```
The first line is the number T which denotes the total number
of test cases.
Next T lines contain an integer N for which you have to print
the number of digits.
```

Output Format

```
For T different Numbers, Print the number of digits in
separate lines.
```

Example Input

```
Input 1:
2
0
1

Input 2:
2
100
10101
```

Example Output

```
Output 1:
1
1
Output 2:
3
5
```

Example Explanation

```
Explanation 1:
0 and 1 both have only one digit.
Explanation 2:
100 has three digits and 10101 has 5 digits.
```