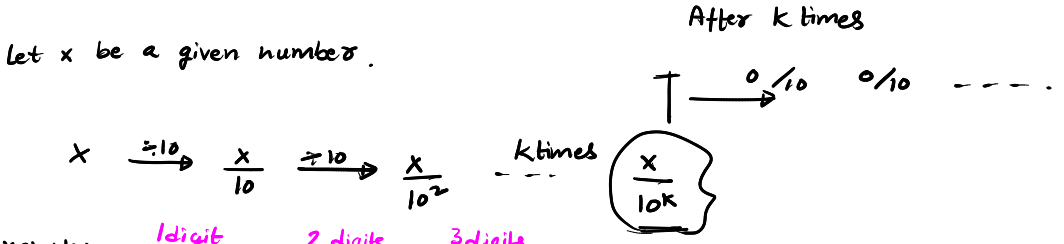
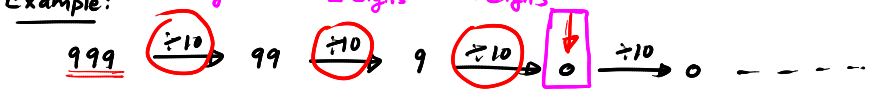
# #Loops in python:

## ① Counting Number of digits in a given number

Let x be a given number.




Example:




In python following integer division (//)

How many times divided -3 } we can stop when number becomes zero.
Digits - 3 }

## ② Sum of first n even numbers

(5)

{0, 2, 4, 6, 8} = 0+2+4+6+8

5 x 2 = 10

5x2-1

0, 1, 2, 3, 4, 5, 6, 7, 8, (9), 10

```
ans = 0
for i in range(9):
    if i is even:
        ans += i
print(ans)
```

8, 2n

ans = 0
ans = 0+2
ans = 0+2+4
ans = 0+2+4+6
ans = 0+2+4+6+8 //

Sum of first n even number → all the numbers even + odd (0, 2n)

we will pick even only n

range(start, stop, increment):

range(9): 0, ---- 8

range(10): 0, ---- 9 } 10

```
for i in range(2*n):
    if i%2==0:
        ans += i
print(ans)
```

# #Checking whether a given number is a prime (or) not: