10.
```
U = input ("Enter a Special character:")
if (U=="_", U=="!", U=="@", U=="#", U=="$",
    U=="*"):
    Print (U, "is a Special character")
else:
    Print (U, "not a Special character")
```

Dry Run:

Enter a Special character: A (value assing)

Condition check → if → "U=="_", U=="!", U=="@" U=="#" U=="$" U=="*"} → False

else → True

Output → A not a Special character

11.
```
for i in range (1,101):
    if i%3==0 and i%5!=0:
        Print(i, end=" ")
        Print(i)
    else:
        Print ("No number")
```

Dry run:

i = 1 → i%3 (False) ~~→ i%5 (True)~~

i = 2 → i%3 (False)

i = 3 → i%3 (True) → i%5 → False

⋮

i = 100 → i%100 (False)

Output → 3

6

9

⋮

12.
```
n = int(input("Enter a no.: "))
total = 0
for i in range(1,n):
    if i%2==0:
        total+=i
    Print (total)
```

Dry run :-

input → 6

i b/w 1 to 5

i = 1 → False

i = 2 → True

i = 3 → False

i = 4 → True

i = 5 → False

Sum → 2+4 → 6

output → 6

13. n = int (input (" Enter a number : "))

```
total = 0
for i in range (1,n)
    if i%2 != 0:
        total += i
Print (total)
```

Dry run :-

input = 10

i = 1 → True i = 3 → True i = 5 → True

i = 2 → False i = 4 → False i = 6 → False ---

i = 9 → True

Sum of True Conditions → 1 + 3 + 5 + 7, 9

Output → 25

14. ~~in~~ t = int (input (" Enter a no. : "))

```
for i in range(1,11):
    Print (t,"*",i,"=",t*i)
```

Dry Run :-

input → 3

t remains same and i will change ~~till~~ to range.

output →

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

~~Print~~

15. n = int (input ("Enter a no.: "))
    if n > 1 :
        for i in range (2, n):
            if n % i == 0:
                Print ("Not Prime")
            else:
                Print ("Prime")
    else:
        Print ("Not Prime")

Dry run :-

input = 7

Condition checking → n > 1 → True

for loop → ~~7 % i != 0~~ n % i == 0 → False

Conditional check for else → True

output → Prime

16. i = int(input("Enter a no. : "))

```
fact = 1
for j in range(1, 1+i):
    fact *= j
Print(fact)
```

Dry run :-

input → 6

for loop → fact *= j (1, 2, 3, 4, 5, 6)

j = 1 → 1 * 1 = 1

j = 2 → 1 * 2 = 2

j = 3 → 2 * 3 = 6

j = 4 → 6 * 4 = 24

j = 5 → 24 * 5 = 120

j = 6 → 120 * 6 = 720

Output → 720

17. ~~int = +~~

```
i = int (input("Enter a number : "))
fact = 0
for j in range (1,i+1):
    fact += i
Print (fact)
```

Dry Run :-

input → 10

loop → (1, 11)

fact = 0 Starting till 10

Output → 50

~~18. n = int inp~~

~~n = input ("Enter a num~~

18. n = input ("Enter Character : ")

```
Pal = ""
for i in range (1,n):
    Pal = Pal + i

if n == Pal :
    Print ("Palindrome")
else :
    Print ("Not Palindrome")
```

Dry Run :-

input → Nitin

i = n → Pal = n

i = i → Pal = ni

i = t → Pal = nit

i = i → Pal = niti

i = n → Pal = nitin

Condition check → if → True

Output → Palindrome

~~20. int~~

```
20. a,z int (input ("enter term : "))
    a,b = 1, 0
    for i in a :
        Print (a, " + ", b, " = ", a+b)
    a, b = b, b + a
```

Dry run!-

input → 5

output → 1 + 0 = 1

0 + 1 = 1

1 + 1 = 2

2 + 1 = 3

~~output → 1 + 2 3~~

1 +

1.
```
n = int(input("Enter a no. :"))
if n>0:
    Print("Positive no.")
elif n<0:
    Print("Negative no.")
else:
    Print("zero")
```

Dry run :-

output → Enter a no. : 16
Positive no.

n=16 (assing value)

Condition check: n>0 → True

output → Positive no.

2.
```
n = int(input("Enter a no.: "))
if n%2=0:
    Print("Even")
else:
    Print("odd")
```

Dry run :-

n = 3 (assing value)

Condition check → n%2 == 0 → False

Else → True

output = odd

3. n = int (input ("Enter an age: "))

```
if n>=18:
    Print("You Can Vote")
else:
    Print("You Cannot Vote")
```

Dry run :-

n = 12 (assing value)

Condition check → n>=18 → False

Now Condition check in else → True

Output → You Cannot Vote

4. n1 = int (input ("Enter first no.: "))
   n2 = int (input ("Enter second no.: "))

```
if n1 > n2:
    Print (n1, " is largest no.")
else:
    Print(n2, " is larger no.")
```

Dry Run :-

~~n1 = 36~~ Enter first no.: 36 {value assing}

Enter second no.: 42

Condition check in if → n1>n2 → False

~~Also, in~~ Bcz if condition is false,

Condition check in else → True

output → 42 is larger no.

5.
```
n1 = int (input ("Enter first no.: "))
n2 = int (input ("Enter Second no.: "))
n3 = int (input ("Enter Third no.: "))
if n1 > n2 and n1 > n3:
    Print (n1, "is larger of three no.")
elif n2 > n1 and n3 > n1:
    Print (n2, "is larger of three no.")
else:
    Print (n3, "is larger of three no.")
```

Enter first no.: 54
Enter Second no.: 61
Enter Third no.: 73
} (value assing)

Condition check → if → n1 > n2 and n1 > n3 → False
bcz if condition is false, now it will check in elif
elif → n2 > n1 and n2 > n3 → False
again false, now in else
else → True

output → 73 is larger of three no.

6. a = input ("Enter an alphabet : ")

```
if (a =="a", a=="e", a=="i", a=="o", a=="u"):
    Print ("vowel")
else:
    Print ("Consonant")
```

Dry run :-

a = e (value assign)

Check Condition → a=="e" → True

output → vowel

7. y = int (input ("Enter a year: "))

```
if y%400 ==0:
    Print ("leap year")
elif y%100 ==0:
    Print ("Not a leap year")
elif y%4==0:
    Print ("leap year")
else:
    Print ("Not a leap year")
```

Dry run :-

y = 1990 (value assing)

Check Condition → y%400 ==0 → False

Now Condition ~~will~~ check in ~~else~~ elif

~~output~~

~~elif~~ → y%100 ==0 → False

Now ~~a~~gain in elif

elif → y%4==0 → False

In else condition → True

output → Not a leap year

8. m= int (input (" Enter a number:"))

```
if m%5==0 and m%11==0:
    Print (m," Divisible")
else:
    Print ("Not Divisible")
```

Dry run:-

Enter a number : 55 (value assig)

Condition check ⟶ m%5=0 and m%=11 ⟶ True

Output ⟶ 55 Divisble

9. m = int (input ("Mark of a Student: "))

```
if m>=90:
    Print ("A")
elif 89>=m>=75:
    Print ("B")
elif 74>=m>=50:
    Print ("C")
else:
    Print ("Fail")
```

Dry Run:-

~~m= 88~~ (value assing)

~~Enter a~~ Mark of a Student : 88

Condition check ⟶ if ⟶ m >=90 ⟶ False

else ⟶ 89>=m>=75 ⟶ True

Output ⟶ B

2). n = int (input ("Enter a number: "))
for i in range (2, n+1):
if n%i == 0:
print ("Smallest divisor:", i)
break

Dry run :-

input → 5

~~else~~

loop i → 2, 3, 4, 5

Condition check → ~~i = 2~~

when, i = 2 → False
i = 3 → False
i = 4 → False
i = 5 → True

output → Smallest divisor: 5

~~i = len(a)~~ # len m int nhi hota bss String hota h.

~~print(~~

22. a = input ("Enter a number : ")
    i = len(a)
    Print ("Number is : ", a, "And digit occurance is:"
    i)

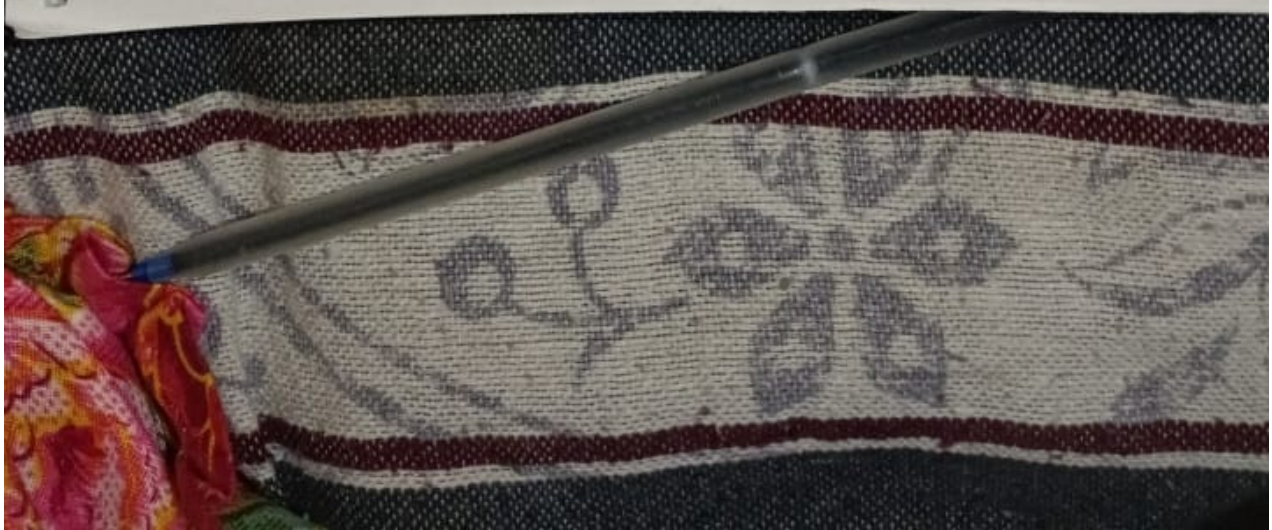
Dry run :-

input → 537423

len → used to count digit in alphabet or any character.

no use of float, int in len only Str work.

Outbut → Number is : 537423 And digit occurance is : 6



23.
```
def hcf(a,b):
    if a==0:
        return b
    if b==0:
        return a
    while:
        a,b = b, a%b
    return a
print(hcf(64,52))
```

Dry run :-

Input a = 64 b = 52

a==0 → False

b==0 → False

Condition in while :

a = b ⟶ 52

b = a%b ⟶ 12

HCF (52, 12)

b = a%b ⟶ 4

HCF (12, 4)

b = a%b ⟶ (4, 0)

Output ⟶ 4

30.
```
n=int(input("Enter a number : "))
for i in range(1,n):
    Print (" "*(i*3) +"*" *3)
```

Dry run :-

input → 7

for loop → i → 1-6

i=1 → *** --- 3 times space

i=2 → ------ 6 time space & so on.

output →

```
   ***
      ***
         ***
            ***
               ***
                  ***
```

=> Stairs

24. def hcf(a,b):
    while b!=0:
        a,b = b, a%b
    return a

print(hcf(64,32))

def lcm(a,b):
    a,b = b,(a*b)//hcf(a,b)

print(lcm(64,52))

Dry Run :-

b!=0

b = a%b → True ∵ b≠0

hcf → 4

In lcm → b = (a*b)//4 → 832

output → 832

2/Jan