

# Python

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## ASSIGNMENT 1

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<b>ASSIGNMENT 1</b>
<b>SET-A</b>
Q.1 Write a python script to calculate sum of digit of a given input number.
<p><b><u>Ans:</u></b> num=123 sum=0  while num!=0:     digit = int(num%10)     sum=sum+digit     num=num/10  print("Sum of Digit of a given Number :",sum)</p>

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<b>SET-A</b>
Q.2 Write a python script to check whether a input number is Armstrong or not.
<p><b><u>Ans:</u></b> num=153 sum=0  temp=num while temp&gt;0:     digit=temp%10     sum=sum+digit ** 3     temp=temp//10  if num == sum:     print(num,"is Armstrong.") else:     print(num,"is not Armstrong")</p>

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Q.3 Write a python script to check whether a input number is perfect number or not.
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**Ans:**

```
num=6
sum=0
for i in range(1,num):
    if(num%i==0):
        sum=sum+i
if(sum==num):
    print("Given no is perfect")
else:
    print("Given no is not perfect")
```

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Q.4 Write a program to calculate $X^Y$
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**Ans:**

```
base=5
expo=2
r=pow(base,expo)
print("Power of :",base,"^",expo,"=",r)
```

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Q.5. Write a program to check whether a input number is palindrome or not.

**Ans:**

```
n=int(input("Enter a Number: "))
originaln=n;
rev=0
while(n!=0):
    rem=n%10
    rev=rev*10+rem
    n=n//10

if(originaln==rev):
    print(originaln,"is a Palindrome Number.")
else:
    print(originaln,"is not a Palindrome Number")
```

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Q.6 Write a program to accept a number and count number of even, odd, zero digits within that number.

**Ans:**

```
n=int(input("Enter a number :"))
sum=0
ld=n%10
while(n>=10):
    n=n//10

fd=n
sum=fd+ld
print("Sum of first and last digit of a number is :",sum)
```

**ASSIGNMENT 1****SET-B**

Q.1 Write a program to accept a number and count number of even, odd, zero digits within that number.

**Ans:**

```
n=int(input("Enter a Number :"))
zero=0
odd=0
even=0
while(n>0):
    digit=n%10
    n=n//10
    if(digit!=0 and digit%2==0):
        even=even+1
    elif(digit==0):
        zero=zero+1
    else:
        odd=odd+1

print(f"Even :{even} Odd : {odd} Zero :{zero}")
```

**ASSIGNMENT 1****SET-B**

Q.2 Write a program to accept a binary number and convert it into decimal number.

**Ans:**

```
number=int(input("Enter a Number :"))
original=number
decimaln=0
rem=0
i=0
while(number!=0):
    rem=number%10
    number=number//10
    decimaln=decimaln+rem*pow(2,i)
    i=i+1

print(f"{original} in Decimal is : {decimaln}")
```

<b>ASSIGNMENT 1</b>
<b>SET-B</b>
Q.3 Write a program which accepts an integer value as command line and print "Ok" if value is between 1 to 50 (both inclusive) otherwise it prints "Out of range".
<p><b><u>Ans:</u></b></p> <pre>intval=int(input("Enter Value: ")) if(intval&gt;=1 and intval&lt;=50):     print("OK") else:     print("Out of Range..!")</pre>

<b>ASSIGNMENT 1</b>
<b>SET-B</b>
Q.4 Write a program which accept an integer value 'n' and display all prime numbers till 'n'.
<p><b><u>Ans:</u></b></p> <pre>n= int(input("Enter n: ")) for num in range(2,n+1):     if num&gt;1:         for i in range(2,int(num**0.5)+1):             if(num%i)==0:                 break         else:             print(num)</pre>

<b>ASSIGNMENT 1</b>
<b>SET-B</b>
Q.5 Write python script to accept two numbers as range and display multiplication table of all numbers within that range.
<p><b><u>Ans:</u></b></p> <pre>frange=int(input("Enter Starting Range: ")) lrange=int(input("Enter Ending Range: ")) for i in range(frange,lrange+1):     for j in range(1,11):         print(f"{i}*{j}={i*j}")</pre>

## ASSIGNMENT 1

### SET-C

Q.1 Write a python script to generate the following pattern upto n lines

```
1
1 2 1
1 2 3 2 1
1 2 3 4 3 2 1
```

**Ans:**

```
rows=5
for i in range(1, rows+1):
    for j in range(1,rows-i+1):
        print(" " * (rows-i),end="")
    for j in range(1, i+1):
        print(j, end="")

    for j in range(i-1,0,-1):
        print(j,end="")
```