In [13]:

```
#Program to print Hello World
print("Hello World!")
```

```
Hello World!
```

In [16]:

```
#Program to calculate sum of two numbers
n1 = input("Enter first number: ")
n2 = input("Enter second number: ")
sum = int(n1)+int(n2)
print("Sum of " + n1 + " & " + n2 + " = " + str(sum))
```

```
Enter first number: 6
Enter second number: 4
Sum of 6 & 4 = 10
```

In [3]:

```
#Program to find area and circumference of circle
import math
r = input("Enter radius: ")
area = math.pi*float(r)**2
cir = 2*math.pi*float(r)
print("Area = " + str(area))
print("circumference = " + str(cir))
```

```
Enter radius: 3
Area = 28.274333882308138
circumference = 18.84955592153876
```

In [25]:

```
#Program to find simple interest
p = float(input("Enter principle amount: "))
r = float(input("Enter rate of interest: "))
n = int(input("Enter no. of years: "))
si = (p*r*n)/100
print("Simple Interest = " + str(si))
```

```
Enter principle amount: 15000
Enter rate of interest: 2
Enter no. of years: 2
Simple Interest = 600.0
```

In [26]:

```
#Program to convert temperature from degree centigrade to degree fahrenheit
temp = float(input("Enter temperature in degree centigrade: "))
conv = (temp*1.8)+32
print(str(temp) + " in degree fahrenheit = " + str(conv))
```

```
Enter temperature in degree centigrade: 98
98.0 in degree fahrenheit = 208.4
```

In [28]:

```
#Prohgram to print the marksheet of a student
marks=[]
total=0
for i in range(0,5):
    list=float(input())
    marks.append(list)
    total=total+marks[i]
per=(total/500)*100
print("Total marks= " + str(total))
print("Percentage = " + str(per))
```

```
40
60
80
90
45
Total marks= 315.0
Percentage = 63.0
```

In [31]:

```
#Program to swap two numbers using third variable
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
print("Before swapping \n a=" + str(a) + "\t b=" + str(b))
c=a
a=b
b=c
print("After swapping \n a=" + str(a) + "\t b=" + str(b))
```

```
Enter first number: 4
Enter second number: 8
Before swapping
 a=4     b=8
After swapping
 a=8     b=4
```

In [33]:

```
#Program to swap two numbers without using third variable
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
print("Before swapping \n a=" + str(a) + "\t b=" + str(b))
a = a+b
b = a-b
a = a-b
print("After swapping \n a=" + str(a) + "\t b=" + str(b))
```

```
Enter first number: 12
Enter second number: 45
Before swapping
 a=12    b=45
After swapping
 a=45    b=12
```

In [36]:

```
#Program to calculate gross salary
bsal = float(input("Enter basic salary: "))
print("Dearness Allowance is 10%")
print("House Rent Allowance is 12%")
da = (10*bsal)/100
hra = (12*bsal)/100
print("Dearness Allowance = " + str(da))
print("House Rent Allowance = " + str(hra))
grs = bsal + da + hra
print("Gross Salary = " + str(grs))
```

```
Enter basic salary: 75000
Dearness Allowance is 10%
House Rent Allowance is 12%
Dearness Allowance = 7500.0
House Rent Allowance = 9000.0
Gross Salary = 91500.0
```

In [41]:

```
#Program to find greatest of two numbers
a = input("Enter first number: ")
b = input("Enter second number: ")
if a>b:
    print(a + " is greater than " + b)
elif a<b:
    print(b + " is greater than " + a)
else:
    print(a + " and " + b + " are equal.")
```

```
Enter first number: 12
Enter second number: 43
43 is greater than 12
```

In [54]:

```
#Program to convert days into weeks and years
days = input("Enter number of days: ")
week = int(days)/7
year = int(days)/365
print(days + " days in week = " + str(week))
print(days + " days in year = " + str(year))
```

```
Enter number of days: 365
365 days in week = 52.142857142857146
365 days in year = 1.0
```

In [50]:

```
#Program to convert seconds into minutes and hours
sec = input("Enter seconds: ")
min = int(sec) /60
hrs = int(sec) /3600
print(sec + " seconds in minutes = " + str(min))
print(sec + " seconds in hours = " + str(hrs))
```

```
Enter seconds: 4500
4500 seconds in minutes = 75.0
4500 seconds in hours = 1.25
```

In [58]:

```
#Program to solve the equation c=ax+by where a=5,b=6
x = input("Enter value of x: ")
y = input("Enter value of y: ")
a = 5
b = 6
c = (a*int(x)) + (b*int(y))
print("Value of c = " + str(c))
```

```
Enter value of x: 2
Enter value of y: 3
Value of c = 28
```

In [59]:

```
#Program to take a name from the user
name = input("Enter a name: ")
print("Hello " + name)
```

```
Enter a name: Saumya Deep
Hello Saumya Deep
```

In [67]:

```
#Program to check the given no. is odd or even
n = input("Enter a number: ")
if int(n)%2==0:
    print(n + " is a even number.")
else:
    print(n + " is odd number.")
```

```
Enter a number: 57
57 is odd number.
```

In [75]:

```
#Program to check whether entered year is leap year or not
year = int(input("Enter a year: "))
if year%400==0:
    print(str(year) + " is a leap year.")
elif year%4==0 and year%100!=0:
    print(str(year) + " is a leap year.")
else:
    print(str(year) + " is not a leap year.")
```

```
Enter a year: 2036
2036 is a leap year.
```

In [79]:

```
#Program to check whether the given number is divisible by 5 or not
n = input("Enter a number: ")
if int(n)%5==0:
    print(n + " is divisible by 5.")
else:
    print(n + " is not divisible by 5.")
```

```
Enter a number: 45
45 is divisible by 5.
```

In [92]:

```
#Program to calculate sum of digits of the given number
num = input("Enter a no.: ")
n = int(num)
sum = 0
while n!=0:
    rem = int(n%10)
    sum = sum + rem
    n = int(n/10)
print("Sum of digits of " + num + " = " + str(sum))
```

```
Enter a no.: 19263
Sum of digits of 19263 = 21
```

In [95]:

```
#Program to display 10 natural numbers and their sum
sum = 0
print("First 10 natural numbers: ")
for i in range(1,11):
    print(i)
    sum = sum + i
print("Sum of first 10 natural numbers = " + str(sum))
```

```
First 10 natural numbers:
1
2
3
4
5
6
7
8
9
10
Sum of first 10 natural numbers = 55
```

In [21]:

```
#Program to print fibonacci series
limit = int(input("Enter the limit: "))
a = 0
b = 1
sum = 0
print("Fibonacci Series: " + str(a) + " " + str(b),end=" ")
while sum<limit:
    sum = a + b
    if sum>=limit:
        break
    else:
        print(sum,end=" ")
    a = b
    b = sum
```

```
Enter the limit: 100
Fibonacci Series: 0 1 1 2 3 5 8 13 21 34 55 89
```

In [3]:

```
#Program to find factorial of a number
n = input("Enter a number: ")
fact = 1
for i in range(1,int(n)+1):
    fact = fact * i
print("Factorial of " + n + " = " + str(fact))
```

```
Enter a number: 5
Factorial of 5 = 120
```

In [10]:

```
#Program to check whether the given number is prime or not
n = input("Enter a number: ")
c = 0
for i in range(1,int(n)+1):
    if int(n)%i==0:
        c = c+1
if c==2:
    print(n + " is a prime number.")
elif int(n)==1:
    print(n + " is neither prime nor composite.")
else:
    print(n + " is not a prime number.")
```

```
Enter a number: 23
23 is a prime number.
```

In [4]:

```
#Program to print prime numbers between 1 to 100
c = 0
print("Prime numbers from 1-100")
print("1 is neither prime nor composite.")
for i in range(1,101):
    for j in range(1,i+1):
        if i%j==0:
            c = c+1
    if(c==2):
        print(i,end=" ")
    c=0
```

```
Prime numbers from 1-100
1 is neither prime nor composite.
2 3 5 7 11 13 17 19 23 29 31 37 41 43 47 53 59 61 67 71 73 79 83 89 97
```

In [12]:

```
#Program to calculate sum of series: 1 + 1/2 + 1/3 + ..... + 1/n
n = input("Enter the limit: ")
sum = 0
for i in range(1,int(n)+1):
    sum = sum + 1/i
print("Sum of series = " + str(sum))
```

```
Enter the limit: 10
Sum of series = 2.9289682539682538
```

In [12]:

```
#Program to display series and find sum of: 1 + 3 + 5 + ..... + n
n = input("Enter the limit: ")
sum = 0
i = 1
print("Series: ",end=" ")
while i<=int(n):
    print(i,end=" ")
    sum = sum + i
    i = i + 2
print("\nSum of series = " + str(sum))
```

```
Enter the limit: 10
Series:  1 3 5 7 9
Sum of series = 25
```

In [38]:

```
#Program to find greatest of three numbers
a = int(input("Enter first number: "))
b = int(input("Enter second number: "))
c = int(input("Enter third number: "))
if a==b and b==c:
    print(str(a) + " " + str(b) + " " + str(c) + " are equal.")
    print("Please enter different numbers to check the greatest.")
elif a>b:
    if a>c:
        print(str(a) + " is greatest")
    else:
        print(str(c) + " is greatest")
else:
    if b>c:
        print(str(b) + " is greatest")
    else:
        print(str(c) + " is greatest")
```

```
Enter first number: 5
Enter second number: 8
Enter third number: 2
8 is greatest
```

In [16]:

```
#Program to reverse digits of the given number
num = input("Enter a number: ")
n = int(num)
rev = 0
while n>1:
    rem = int(n)%10
    rev = rev*10+rem
    n = int(n)/10
print("Reverse of " + num + " = " + str(rev))
```

```
Enter a number: 47238
Reverse of 47238 = 83274
```

In [51]:

```
#Program to print multiplication table of the given number
n = input("Enter a number: ")
print("Multiplication table of " + n)
for i in range(1,11):
    mul = int(n)*i
    print(n + "x" + str(i) + "=" + str(mul))
```

```
Enter a number: 17
Multiplication table of 17
17x1=17
17x2=34
17x3=51
17x4=68
17x5=85
17x6=102
17x7=119
17x8=136
17x9=153
17x10=170
```

In [59]:

```
#Program to find perfect number
def perfect(n):
    sum = 0
    for i in range(1,n):
        if n%i==0:
            sum = sum + i
    return sum

num = int(input("Enter a number: "))
if perfect(num)==num:
    print(str(num) + " is a perfect number.")
else:
    print(str(num) + " is not a perfect number.")
```

```
Enter a number: 6
6 is a perfect number.
```

In [68]:

```
#Program to find GCD of two numbers
n1 = int(input("Enter first number: "))
n2 = int(input("Enter second number: "))
for i in range(1,n1+1):
    for j in range(1,n2+1):
        if n1%i==0 and n2%i==0:
            gcd=i
print(str(gcd) + " is the greatest common divisior of " + str(n1) + " & " + str(n2))
```

```
Enter first number: 24
Enter second number: 44
4 is the greatest common divisior of 24 & 44
```

In [81]:

```
#Program to display and sort list elements
list = []
n = int(input("Enter range: "))
for i in range(0,n):
    ele = int(input())
    list.append(ele)
list.sort()
print("Sorted Elements in assending order")
print(list)
list.reverse()
print("Sorted Elements in descending order")
print(list)
```

```
Enter range: 6
12
5
78
34
2
53
Sorted Elements in assending order
[2, 5, 12, 34, 53, 78]
Sorted Elements in descending order
[78, 53, 34, 12, 5, 2]
```

In [91]:

```
#Program to check entered string is palindrome or not without using function
s1 = input("Enter a string: ")
s2 = s1[::-1]
if s1==s2:
    print(s1 + " is a palindrome string.")
else:
    print(s1 +" is not a palindrome string.")
```

```
Enter a string: malayalam
malayalam is a palindrome string.
```

In [94]:

```
#Program to check entered string is palindrome or not using function
def ispalin(s):
    return s==s[::-1]
s = input("Enter a string: ")
if ispalin(s):
    print(s + " is a palindrome string.")
else:
    print(s + " is not a palindrome string.")
```

```
Enter a string: level
level is a palindrome string.
```

In [106]:

```
#Program to print the following pattern
#1
#12
#123

for i in range(1,4):
    for j in range(1,i+1):
        print(j,end=" ")
    print("\r")
```

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

In [112]:

```
#Program to print the following pattern
#1
#23
#456

n = 1
for i in range(1,4):
    for j in range(1,i+1):
        print(n,end=" ")
        n = n + 1
    print("\r")
```

```
1
2 3
4 5 6
```

In [128]:

```
#Program to print the following pattern
#   *
# * *
#* * *

for i in range(1,4):
    for j in range(i,4):
        print(end=" ")
    for k in range(1,i+1):
        print("* ",end="")
    print("\r")
```

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

In [135]:

```
#Program to print the following pattern
#55555
# 4444
#  333
#   22
#    1

for i in range(5,0,-1):
    for j in range(5,i,-1):
        print(end=" ")
    for k in range(i,0,-1):
        print(i,end="")
    print("\r")
```

```
55555
 4444
  333
   22
    1
```

In [140]:

```
#Program to print the multiplication table from 1 to 20.
for i in range(1,21):
    print("Multiplication table of " + str(i))
    for j in range(1,11):
        mul = i*j
        print(str(i) + " x " + str(j) + " = " + str(mul))
    print("\r")
```

```
Multiplication table of 1
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10

Multiplication table of 2
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
```