```
************************************
*R * A * M * E * S * H **S** P * U * J * A * R * I ** G * U * L * B * A * R * G * A*
*************************************
# python Program for Even and Odd Number
num=int(input("Enter the no:"))
if(num<0):
   print("Enter valid number")
elif num%2==0:
   print ("even")
else:
   print ("odd")
************************
# Python Program for Factorial of Number
n=int(input("enter no:"))
fact=1
if n<0:
   print("invalid input")
elif n==0:
   print("factorial of 0 is 1")
else:
   for i in range(1,n+1):
      fact=fact*i
   print("factorial of number is", fact)
______
import math
number = int(input(" Please enter any Number to find factorial : "))
fact = math.factorial(number)
print("The factorial of %d = %d" %(number, fact))
______
number = int(input(" Please enter any Number to find factorial : "))
fact = 1
for i in range(1, number + 1):
   fact = fact * i
print("The factorial of %d = %d" %(number, fact))
number = int(input(" Please enter any Number to find factorial : "))
fact = 1
i = 1
while(i <= number):</pre>
   fact = fact * i
   i = i + 1
print("The factorial of %d = %d" %(number, fact))
**********************
# Python Program for Prime Number
lower=int(input("Entr lower limint:"))
upper=int(input("Entr upper limint:"))
for num in range(lower,upper+1):
   for i in range(2, num):
      if (num%i)==0:
```

```
break
   else:
       print(num, end = ' ')
n=int(input("Entr the number"))
if n<0:
   print("invalid input")
for i in range(2,n):
   if(n%i)==0:
       print("not prime number")
       break
else:
   print("prime number")
*************************
# Python Program for Fibonacci series
def Fib(n):
   if(n == 0):
       return 0
   elif(n == 1):
       return 1
   else:
       return (Fib(n - 2) + Fib(n - 1))
Number = int(input("\nPlease Enter the Range Number: "))
for i in range(0, Number):
         print(Fib(i))
***********************
# Python Program for Calender
import calendar
year = int(input("Please Enter the year Number: "))
month = int(input("Please Enter the month Number: "))
print(calendar.month(year, month))
***************************
# Python Program for Natural numbers
number = int(input("Please Enter any Number: "))
for i in range(1, number + 1):
   print (i, end = ' ')
*************************
# Python Program for Divisible Checking
number = int(input(" Please Enter any Positive Integer : "))
if((number \% 5 == 0) and (number \% 11 == 0)):
   print("Number is Divisible")
else:
   print("Not Divisible")
*************************
# Python Program to find Power of a Number
import math
number = int(input(" Please Enter any Positive Integer : "))
exponent = int(input(" Please Enter Exponent Value : "))
power = math.pow(number, exponent)
print("The Result of {0} Power {1} = {2}".format(number, exponent, power))
```

```
number = int(input(" Please Enter any Positive Integer : "))
exponent = int(input(" Please Enter Exponent Value : "))
power = 1
for i in range(1, exponent + 1):
   power = power * number
print("The Result of {0} Power {1} = {2}".format(number, exponent, power))
*************************
# Python Program to Count Number of Digits in a Number
Number = int(input("Please Enter any Number: "))
Count = 0
while(Number > 0):
   Number = Number // 10
   Count = Count + 1
print("\n Number of Digits in a Given Number = %d" %Count)
                 def Counting(Number):
   Count = 0
   while(Number > 0):
       Number = Number // 10
       Count = Count + 1
   print("\n Number of Digits in a Given Number = %d" %Count)
Counting(1234)
            ********************
# Python Program to find First and Last Digit of a Number
number = int(input("Please Enter any Number: "))
first = number
while(first >= 10):
   first = first // 10
print("first =",first)
last=number % 10
print("last =",last)
************************
# Python Program GCD / HCF of Two Number
a = float(input(" Please Enter the First Value a: "))
b = float(input(" Please Enter the Second Value b: "))
i = 1
while(i <= a and i <= b):
   if(a \% i == 0 \text{ and } b \% i == 0):
      temp = i
   i = i + 1
print("\n HCF of \{0\} and \{1\} = \{2\}".format(a, b, temp))
import fractions
a=int(input("Enter the first number:"))
b=int(input("Enter the second number:"))
print("The GCD of the two numbers is",fractions.gcd(a,b))
***********************
# Python Program GCD / LCM of Two Number
```

```
a = float(input(" Please Enter the First Value a: "))
b = float(input(" Please Enter the Second Value b: "))
if(a > b):
   maximum = a
else:
   maximum = b
while(True):
   if(maximum % a == 0 and maximum % b == 0):
       print("\n LCM of \{0\} and \{1\} = \{2\}".format(a, b, maximum))
       break;
   maximum = maximum + 1
****************************
# Python Program to Print Natural Numbers in Reverse Order
number = int(input("Please Enter any Number: "))
i = number
print("List of Natural Numbers from {0} to 1 in Reverse Order : ".format(number))
while (i >= 1):
   print (i, end = ' ')
   i = i - 1
************************
# Python Palindrome Program
num=int(input("Enter number:"))
rev=0
temp=num
while(temp>0):
   rem=temp%10
   rev=(rev*10)+rem
   temp=temp//10
if(num==rev):
   print("Pallindrome Number")
else:
   print("Not Pallindrome Number")
****************************
# Python Program to print Palindrome numbers from 1 to 100
minimum = int(input(" Please Enter the Minimum Value : "))
maximum = int(input(" Please Enter the Maximum Value : "))
for num in range(minimum, maximum + 1):
   temp = num
   reverse = 0
   while(temp > 0):
       Reminder = temp % 10
       reverse = (reverse * 10) + Reminder
       temp = temp //10
   if(num == reverse):
       print("%d " %num, end = ' ')
**************************
# Python Program to Find Sum of Digits of a Number
Number = int(input("Please Enter any Number: "))
Sum = 0
while(Number > 0):
```

```
Reminder = Number % 10
   Sum = Sum + Reminder
   Number = Number //10
print("\n Sum of the digits of Given Number = %d" %Sum)
*********************
# Python program to find ASCII Values of Total Characters in a String
str1 = input("Please Enter your Own String : ")
for i in range(len(str1)):
   print("The ASCII Value of Character %c = %d" %(str1[i], ord(str1[i])))
               ***********
# Count Number of characters n Occurrence of a Character in a String
string = input("Please enter your own String : ")
char = input("Please enter Character to Check Occurrence : ")
count = 0
total=0
for i in range(len(string)):
   total=total+1
   if(string[i] == char):
       count = count + 1
print("Number of Character in the string:",total)
print("The total Number of Times ", char, " has Occurred = " , count)
-----
str1 = input("Please Enter your Own String : ")
total = 1
for i in range(len(str1)):
   if(str1[i] == ' ' or str1 == '\n' or str1 == '\t'):
       total = total + 1
print("Total Number of Words in this String = ", total)
****************
# Count Alphabets Digits and Special Characters in a String
string = input("Please Enter your Own String : ")
alphabets = digits = special = 0
for i in range(len(string)):
   if(string[i].isalpha()):
       alphabets = alphabets + 1
   elif(string[i].isdigit()):
       digits = digits + 1
   else:
       special = special + 1
print("\nTotal Number of Alphabets in this String : ", alphabets)
print("Total Number of Digits in this String : ", digits)
print("Total Number of Special Characters in this String : ", special)
**************************
# Python Program to Check a Given String is Palindrome or Not
string1 = input("Please enter your own String : ")
if(string1 == string1[:: - 1]):
  print("This is a Palindrome String")
else:
  print("This is Not a Palindrome String")
**************************
```

```
# Python program to Replace Blank Space with Hyphen in a String
str1 = input("Please Enter your Own String : ")
str2 = str1.replace(' ', '_')
print("Original String : ", str1)
**************
# Python program to Replace Characters in a String
str1 = input("Please Enter your Own String : ")
ch = input("Please Enter your Character to Replace: ")
newch = input("Please Enter the New Character : ")
str2 = str1.replace(ch, newch)
print("\nOriginal String :", str1)
print("Modified String :", str2)
**********************
# Python program to Remove Odd Characters in a String
str1 = input("Please Enter your Own String : ")
str2 = ''
for i in range(1, len(str1) + 1):
   if(i \% 2 == 0):
       str2 = str2 + str1[i-1]
print("Original String : ", str1)
                        , str2)
print("Final String :
*************************
# Python Program to Reverse String
string = input("Please enter your own String : ")
string2 = ''
for i in string:
   string2 = i + string2
print("\nThe Original String = ", string)
print("The Reversed String = ", string2)
#print(string[::-1])
        *********************
# Python Program to Add two Lists
NumList1 = [10, 20, 30]
NumList2 = [15, 25, 35]
total = []
for j in range(3):
       total.append( NumList1[j] + NumList2[j])
print("\nThe total Sum of Two Lists = ", total)
**************************
# Python Program to Count Even and Odd Numbers in a List
NumList = []
Even count = 0
0dd count = 0
Number = int(input("Please enter size of List Elements: "))
for i in range(1, Number + 1):
   value = int(input("Please enter the Value of %d Element : " %i))
   NumList.append(value)
```

```
for j in range(Number):
   if(NumList[j] % 2 == 0):
       Even_count = Even_count + 1
   else:
       Odd_count = Odd_count + 1
print("\nTotal Number of Even Numbers in this List = ", Even_count)
print("Total Number of Odd Numbers in this List = ", Odd count)
*************************
# Python Program to Add Key-Value Pair to a Dictionary
key = input("Please enter the Key : ")
value = input("Please enter the Value : ")
myDict = {}
myDict.update({key:value})
print("\nUpdated Dictionary = ", myDict)
                                 k**********************************
# Python Program to check if a Given key exists in a Dictionary
myDict = {'a': 'apple', 'b': 'Banana', 'o': 'Orange', 'm': 'Mango'}
print("Dictionary : ", myDict)
key = input("Please enter the Key you want to search for: ")
if key in myDict:
   print("\nKey Exists in this Dictionary")
   print("Key = ", key, " and Value = ", myDict[key])
else:
   print("\nKey Does not Exists in this Dictionary")
**************************
# Python Program to Create Dictionary of keys and values are square of keys
number = int(input("Please enter the Maximum Number : "))
myDict = {}
for x in range(1, number + 1):
   myDict[x] = x ** 2
print("\nDictionary = ", myDict)
***************************
# Python Program to Map two lists into a Dictionary
keys = ['name', 'age', 'job']
values = ['John', 25, 'Developer']
myDict = {k: v for k, v in zip(keys, values)}
print("Dictionary Items : ", myDict)
output: Dictionary Items: {'name': 'John', 'age': 25, 'job': 'Developer'}
*************************
# Python Program to Concatenate Two Dictionaries
first_Dict = {1: 'apple', 2: 'Banana', 3: 'Orange'}
second_Dict = { 4: 'Kiwi', 5: 'Mango'}
print("First Dictionary: ",
                        first Dict)
print("Second Dictionary: ", second Dict)
first Dict.update(second Dict)
print("\nAfter Concatenating two Dictionaries : ")
print(first Dict)
*************************
# Python Program to Calculate the Average of Numbers in a Given List
```

```
n=int(input("Enter the number of elements to be inserted: "))
a=[]
for i in range(0,n):
   elem=int(input("Enter element: "))
   a.append(elem)
avg=sum(a)/n
print("Average of elements in the list", round(avg, 2))
*************************
# Accept Three Digits and Print all Possible Combinations from the Digits
a=int(input("Enter first number:"))
b=int(input("Enter second number:"))
c=int(input("Enter third number:"))
d=[]
d.append(a)
d.append(b)
d.append(c)
for i in range(0,3):
   for j in range(0,3):
       for k in range(0,3):
          if(i!=j&j!=k&k!=i):
              print(d[i],d[j],d[k])
                                ************
# Python Program to Find the Sum of Digits in a Number
n=int(input("Enter a number:"))
tot=0
while(n>0):
   dig=n%10
   tot=tot+dig
   n=n//10
print("The total sum of digits is:",tot)
*************************
# Python Program to Find the Smallest Divisor of an Integer
n=int(input("Enter an integer:"))
a=[]
for i in range(2,n+1):
   if(n%i==0):
       a.append(i)
a.sort()
print("Smallest divisor is:",a[0])
**********
                                ***********
# Python Program to Count the Number of Digits in a Number
n=int(input("Enter number:"))
count=0
while(n>0):
   count=count+1
   n=n//10
print("The number of digits in the number are:",count)
          **********************
# Python Program to Read a Number n And Print the Series "1+2+....+n= "
n=int(input("Enter a number: "))
```

```
a=[]
for i in range(1,n+1):
   print(i,end=" ")
   if(i<n):</pre>
       print("+",end=" ")
   a.append(i)
print("",sum(a))
output: Enter a number: 10
                                                                            1
+2+3+4+5+6+7+8+9+10 = 55
**********************
# Python Program to Print an Identity Matrix
n=int(input("Enter a number: "))
for i in range(0,n):
   for j in range(0,n):
       if(i==j):
           print("1",end=" ")
       else:
           print("0",end=" ")
   print()
*************************
# Python Program to Find the Area of a Triangle Given All Three Sides
import math
a=int(input("Enter first side: "))
b=int(input("Enter second side: "))
c=int(input("Enter third side: "))
s=(a+b+c)/2
area=math.sqrt(s*(s-a)*(s-b)*(s-c))
print("Area of the triangle is: ",round(area,2))
# Python Program to Search the Number of Times a Particular Number Occurs in a List
temp=[]
size1=int(input("Enter size:"))
for i in range(1, size1+1):
   ele=int(input("Enter the Elements:"))
   temp.append(ele)
k=0
sele=int(input("Enter Number to Count Occurence:"))
for j in temp:
   if(j==sele):
       k=k+1
print("Number of times", sele, "appears is:",k)
*************************
# Python Program to Put Even and Odd elements in a List into Two Different Lists
n=int(input("Enter number of elements:"))
for i in range(1,n+1):
   b=int(input("Enter element:"))
```

```
a.append(b)
even=[]
odd=[]
for j in a:
   if(j\%2==0):
       even.append(j)
   else:
       odd.append(j)
print("The even list", even)
print("The odd list",odd)
**************************
# Python Program to Generate Random Numbers from 1 to 100 and Append Them to the
List
import random
a=[]
n=int(input("Enter number of elements:"))
for j in range(n):
   a.append(random.randint(1,100))
print('Randomised list is: ',a)
**********************
# Python Program to Calculate the Number of Words and the Number of Characters
Present in a String
string=raw input("Enter string:")
char=0
word=1
for i in string:
       char=char+1
       if(i==' '):
             word=word+1
print("Number of words in the string:")
print(word)
print("Number of characters in the string:")
print(char)
# Python Program to Take in Two Strings and Display the Larger String without Using
Built-in Functions
string1=input("Enter first string:")
string2=input("Enter second string:")
count1=0
count2=0
for i in string1:
     count1=count1+1
for j in string2:
     count2=count2+1
if(count1>count2):
     print("Larger string is:",string1)
else:
     print("Larger string is:",string2)
*************************
# Python Program to Count Number of Lower, Upper, Digit, Symbol Characters in a String
```

```
string=input("Enter string:")
1=u=d=s=0
for i in string:
   if(i.islower()):
       1=1+1
   elif(i.isupper()):
       u=u+1
   elif(i.isdigit()):
       d=d+1
   else:
       s=s+1
print("The number of lowercase characters is:")
print("Lowercase:",1)
print("Uppercase:",u)
print("Digits:",d)
print("Symbols:",s)
             *********************
# Python Program to Count the Occurrences of Each Word in a Given String Sentence
s=input("Enter string:")
word=input("Enter word:")
a=[]
count=0
a=s.split(" ")
for i in range(0,len(a)):
     if(word==a[i]):
          count=count+1
print("Count of the word is:")
print(count)
        **********************
# Python Program to Check if a Substring is Present in a Given String
string=input("Enter string:")
sub_str=input("Enter word:")
if(string.find(sub str)==-1):
     print("Substring not found in string!")
else:
     print("Substring in string!")
********************
# Python Program to Check if a Given Key Exists in a Dictionary or Not
d={"1":"Ramesh","2":"Sharanappa","3":"Pujari","4":"Gulbarga"}
key=input("Enter key to check:")
if key in d.keys():
     print("Key is present and value of the key is:",d[key])
else:
     print("Key isn't present!")
*************************
# Python Program to Generate a Dictionary that Contains Numbers (between 1 and n) in
the Form (x,x*x).
n=int(input("Enter a number:"))
d={x:x*x for x in range(1,n+1)}
print(d)
```

```
**************************
# Python Program to Map Two Lists into a Dictionary
k1=[]
v1=[]
n=int(input("Enter number of elements for dictionary:"))
for x in range(0,n):
   k=int(input("Enter keys" + str(x+1) + ":"))
   k1.append(k)
for x in range(0,n):
   v=input("Enter values" + str(x+1) + ":")
   v1.append(v)
d=dict(zip(k1,v1))
print("The dictionary is:",d)
*******************
# Python Program to Count the Number of Words in a Text File
fname = input("Enter file name: ")
num words = 0
with open(fname, 'r') as f:
   for line in f:
      words = line.split()
       num_words += len(words)
print("Number of words:")
print(num words)
               ********************
# Python Program to Count the Occurrences of a Word in a Text File
fname = input("Enter file name: ")
word=input("Enter word to be searched:")
k = 0
with open(fname, 'r') as f:
   for line in f:
      words = line.split()
       for i in words:
          if(i==word):
              k=k+1
print("Occurrences of the word:")
print(k)
**********************
# Python Program to Copy the Contents of One File into Another
with open("test.txt") as f:
   with open("out.txt", "w") as f1:
       for line in f:
          f1.write(line)
***********************
# Python Program to Append the Contents of One File to Another File
name1 = input("Enter file to be read from: ")
name2 = input("Enter file to be appended to: ")
fin = open(name1, "r")
data2 = fin.read()
fin.close()
fout = open(name2, "a")
```

```
fout.write(data2)
fout.close()
# Python Program to Append, Delete and Display Elements of a List Using Classes
class check():
   def __init__(self):
       self.n=[]
   def add(self,a):
       return self.n.append(a)
   def remove(self,b):
       self.n.remove(b)
   def dis(self):
       return (self.n)
obj=check()
choice=1
while choice!=0:
   print("\n 0. Exit\n 1. Add\n 2. Delete\n 3. Display")
   choice=int(input("Enter choice: "))
   if choice==1:
       n=int(input("Enter number to append: "))
       obi.add(n)
       print("List: ",obj.dis())
   elif choice==2:
       n=int(input("Enter number to remove: "))
       obj.remove(n)
       print("List: ",obj.dis())
   elif choice==3:
       print("List: ",obj.dis())
   elif choice==0:
       print("Exiting!")
   else:
       print("Invalid choice!!")
# Python Program to Create a Class which Performs Basic Calculator Operations
class cal():
   def __init__(self,a,b):
       self.a=a
       self.b=b
   def add(self):
       return self.a+self.b
   def mul(self):
       return self.a*self.b
   def div(self):
       return self.a/self.b
   def sub(self):
       return self.a-self.b
a=int(input("Enter first number: "))
b=int(input("Enter second number: "))
```

```
obj=cal(a,b)
choice=1
while choice!=0:
   print("\n 0. Exit\n 1. Add\n 2. Subtraction\n 3. Multiplication\n 4. Division")
   choice=int(input("Enter choice: "))
   if choice==1:
       print("Result: ",obj.add())
   elif choice==2:
       print("Result: ",obj.sub())
   elif choice==3:
       print("Result: ",obj.mul())
   elif choice==4:
       print("Result: ",round(obj.div(),2))
   elif choice==0:
       print("Exiting!")
   else:
       print("Invalid choice!!")
print()
# Python Program to Implement Linear Search
lst = []
num = int(input("Enter size of list: \t"))
for n in range(num):
   numbers = int(input("Enter any number: \t"))
   lst.append(numbers)
x = int(input("\nEnter number to search: \t"))
found = False
for i in range(len(lst)):
   if lst[i] == x:
       found = True
       print("\n%d found at position %d" % (x, i))
       break
if not found:
   print("\n%d is not in list" % x)
*************************
# Python Program to Implement Binary Search
import random
def binary(a,k):
   f=0
                      #f=first
   l=len(a)-1
                      #1=last
   found=False
   while(f<=l and not found):
       mid=(f+1)//2
       if a[mid]==k:
           return mid
       else:
           if k<a[mid]:</pre>
              l=mid-1
           else:
              f=mid+1
```

```
return -1
n=int(input("Enter values:"))
num=[]
for i in range(0,n):
   num.append(int(random.randrange(0,100)))
num.sort()
print(num)
print("sorted array=>",num)
key=int(input("Enter key to search:"))
pos=binary(num,key)
if(pos==-1):
   print("Not found")
else:
   print("found at pos",pos+1)
                               k**********************************
# Python Program to Implement Insertion Sort
def insertion sort(alist):
   for i in range(1, len(alist)):
       temp = alist[i]
       j = i - 1
       while (j \ge 0 \text{ and temp } < alist[j]):
           alist[j + 1] = alist[j]
           j = j - 1
       alist[j + 1] = temp
alist = input('Enter the list of numbers: ').split()
alist = [int(x) for x in alist]
insertion_sort(alist)
print('Sorted list: ', end='')
print(alist)
***********************
# Python Program to Implement Selection Sort
def selection_sort(alist):
   for i in range(0, len(alist) - 1):
       smallest = i
       for j in range(i + 1, len(alist)):
           if alist[j] < alist[smallest]:</pre>
               smallest = i
       alist[i], alist[smallest] = alist[smallest], alist[i]
alist = input('Enter the list of numbers: ').split()
alist = [int(x) for x in alist]
selection_sort(alist)
print('Sorted list: ', end='')
print(alist)
***********************
# Python Program to Implement Selection Sort
def bubble sort(alist):
   for i in range(len(alist) - 1, 0, -1):
       no_swap = True
       for j in range(0, i):
           if alist[j + 1] < alist[j]:</pre>
```

```
alist[j], alist[j + 1] = alist[j + 1], alist[j]
              no swap = False
       if no_swap:
          return
alist = input('Enter the list of numbers: ').split()
alist = [int(x) for x in alist]
bubble sort(alist)
print('Sorted list: ', end='')
print(alist)
           *********************
# Python Program to Implement Bubble Sort
import random
def bubble(a):
   for i in range (0,n):
       for j in range(i+1,n):
          if a[i] > a[j]:
              temp=a[i]
              a[i]=a[j]
              a[j]=temp
a=[]
n=int(input("Enter Number of values:"))
for i in range(0,n):
   a.append(int(random.randrange(0,100)))
bubble(a)
print(a)
**************************
# Python: Input a filename and print the extension of that
filename = input("Input the Filename: ")
f_extns = filename.split(".")
print ("The extension of the file is : ", (f_extns[-1]))
*************************
# Python: Print the calendar of a given month and year
import calendar
y = int(input("Input the year : "))
m = int(input("Input the month : "))
print(calendar.month(y, m))
**************************
# Python: Sum of three given integers. However, if two values are equal sum will be
zero
def sum(x, y, z):
   if x == y or y == z or x == z:
       sum = 0
   else:
       sum = x + y + z
   return sum
print(sum(2, 1, 2))
print(sum(3, 2, 2))
print(sum(2, 2, 2))
print(sum(1, 2, 3))
************************************
```

```
# Python: Sum of two given integers. However, if the sum is between 15 to 20 it will
return 20
def sum(x, y):
   sum = x + y
   if sum in range(15, 20):
      return 20
   else:
      return sum
print(sum(10, 6))
print(sum(10, 2))
print(sum(10, 12))
**************************
# Python: Add two objects if both objects are an integer type
def add numbers(a, b):
   if not (isinstance(a, int) and isinstance(b, int)):
       raise TypeError("Inputs must be integers")
   return a + b
print(add numbers(10, 20))
# Python: Get OS name, platform and release information
import platform
import os
print(os.name)
print(platform.system())
print(platform.release())
***************************
# Python | Program to remove duplicate elements from the list
list1 = [10, 20, 10, 20, 30, 40, 30, 50]
list2 = []
for i in list1:
      if i not in list2:
             list2.append(i)
print ("Original list", list1)
print ("List after removing duplicate elements",list2)
*********************
# Python Pattern Programs - Printing Stars '*' in Right Angle Triangle Shape
n=int(input("Enter no. of rows: "))
for i in range(1,n+1):
   for j in range(1,i+1):
      print("*", end = " ")
   print()
*************************
```