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#1.Write a function for calculating gcd/hcf and lcm for two given values
'''
def gcd(a,b):
   if(a>b):
      max1=a
   else:
      max1=b
   for i in range(1,max1):
         if(a%i==0 and b%i==0):
            g=i
   print(g)
a=int(input("enter 1st number : "))
b=int(input("enter 2nd number : "))
print("gcd/hcf is : ",end=" ")
gcd(a,b)

output:
enter 1st number : 45
enter 2nd number : 54
gcd/hcf is : 9
'''
#2.Write a function for swapping case of characters in a string
'''
def uppercase(s):
   str1 = ''
   for i in s:
      if ord(i) >= 97 and ord(i)<=112:
         str1 += chr(ord(i) - 32)
      else:
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            str1 += chr(ord(i))
    return str1
def lowercase(s):
    str1 = ''
    for i in s:
        if ord(i) >= 65 and ord(i)<=90:
            str1 += chr(ord(i) + 32)
        else:
            str1 += chr(ord(i))
    return str1
print("upper-case : ",uppercase('jaGaDeeSH'))
print("lower-case : ",lowercase('jaGaDeeSH'))

output:
upper-case :  JAGADEESH
lower-case :  jagadeesh
'''
#3.Write a recursive function for converting a decimal number to binary
'''
def bin1(n):
    if n>= 1:
        bin1(n//2)
        print(n%2,end ='')
n=int(input("enter decimal number to convert into binary :"))
print("binary number : ",end=" ")
bin1(n)

output:
enter decimal number to convert into binary :12
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binary number :  1100
'''
#4.write a function to greet vistors where the number of vistors are vary
'''
def f(*a):
   for i in a:
      print("welcome ",i)
f('tom','sam')
f('tom')
f('tom','sam','jim')


output:
welcome  tom
welcome  sam
welcome  tom
welcome  tom
welcome  sam
welcome  jim
'''
#5.Write a function that accepts pin,name and marks for n subjects.Different students may have different number of subjects
'''
def stu(**a):
   for x,y in a.items():
      print(f'{x}= {y}')
a=int(input("enter pin :"))
b=input("enter name : ")
li=[]
n=int(input("enter number of subjects"))
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print("enter subjects : ")
for i in range(0,n):
    e=input()
    li.append(e)
stu(pin=a,name=b,sub=li)
stu(pin=56,name='sandeep',sub=['c++','python'])


output:
enter pin :58
enter name : jagadeesh
enter number of subjects3
enter subjects :
maths
java
python
pin= 58
name= jagadeesh
sub= ['maths', 'java', 'python']
pin= 56
name= sandeep
sub= ['c++', 'python']
'''
#6.Write a function that takes order for cake .If user does not select a flavour default will be vanilla and cost will be Rs.250
'''
def cakeorder(flavour='vanilla', cost=250):
    print (f'your flavour {flavour} and cost:{cost}')
cakeorder('straberry')
cakeorder()
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cakeorder('choclate',50)


output:
your flavour straberry and cost:250
your flavour vanilla and cost:250
your flavour choclate and cost:50
'''
#7.write a function for calculator with basic operations
'''
def calculate(x,y,f):
    return f(x,y)
def add(n,m):
    return(n+m)
def sub(n,m):
    return(n-m)
def mul(n,m):
    return(n*m)
def div(n,m):
    return(n/m)
print("calculator")
print("1.addition",end=" ")
print("2.subtract",end=" ")
print("3.multiply",end=" ")
print("4.division")
d=input("select option: ")
a=int(input("enter 1st number : "))
b=int(input("enter 2nd number : "))
if(d=='1'):
    print("addition : ",calculate(a,b,add))
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if(d=='2'):
   print("subtraction : ",calculate(a,b,sub))
if(d=='3'):
   print("multiplication : ",calculate(a,b,mul))
if(d=='4'):
   print("division : ",calculate(a,b,div))
output:

calculator
1.addition 2.subtract 3.multiply 4.division
select option: 2
enter 1st number : 30
enter 2nd number : 27
subtraction :  3
'''
#8.Write a function to check whether a number falls in a given range
'''
def range(n):
   if(n>=100 and n<=200):
      print(n," is in range")
   else:
      print(n," is not in range")
n=int(input("enter a number: "))
range(n)

output:
enter a number: 101
101  is in range
'''
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#9.Write a function to Find the Shortest Word in a String
'''
def short(s):
    d=s.split()
    max1=d[1]
    for i in d:
        if(len(i)<=len(max1)):
            max1=i
    return max1
s=str(input("enter a string : "))
print("the Shortest Word in String is : ",short(s))


output:
enter a string : hello all welcome to python class
the Shortest Word in String is : to
'''
#10.Write a function to Find out How many 1 and 0 are there in a BinaryNumber
'''
def count(b):
    c=0
    d=0
    for i in b:
        if(i=='1'):
            c +=1
        else:
            d +=1
    print("number of ones are : ",c)
    print("number of zeros are : ",d)
b=input("enter a binary number :")
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count(b)


output:
enter a binary number :00110
number of ones are :  2
number of zeros are :  3
'''
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