**DAY1**

Q1

s=input("enter the string1:")

t=input("enter the string2:")

if len(s)!=len(t):

print("false")

else:

a,b={},{}

for i in range(len(s)):

ch1,ch2=s[i],t[i]

if ch1 not in a:

a[ch1]=ch2

if ch2 not in b:

b[ch2]=ch1

if a[ch1]!=ch2 or b[ch2]!=ch1:

print("false")

else:

print("true")

q2

z=[]

x=int(input("enter no.of.elements"))

for i in range(x):

b=int(input("enter the element"))

z.append(b)

def sumsquare(z):

odd=0

even=0

for i in z:

if i%2==0:

even = even + i\*\*2

else:

odd = odd + i\*\*2

z=[odd,even]

return(z)

print(sumsquare(z))

q3

def happynumber(num):

rem=sum=0

while(num>0):

rem=num%10

sum=sum+(rem\*rem)

num=num//10

return sum

num=int(input("enter a number :"))

result=num

while(result!=1 and result!=4):

result=happynumber(result);

if(result==1):

print(str(num)+"is a happy number")

elif(result==4):

print(str(num)+"is not a happy number")

q4

X=int(input("Enter number:"))

temp=X

rev=0

while(X>0):

dig=X%10

rev=rev\*10+dig

X=X//10

if(temp==rev):

print("true")

else:

print("The number isn't a palindrome!")

Q5

a=float(input('enter the number of new breads purchased'))

b=float(input('enter the number of old breads purchased'))

c=a\*185

d=b\*185

f=float(d\*60/100)

e=185

print('regular price:',e)

print('amount of new bread:',c)

print('amount of old bread:',f)

print('total price=',c+f)

Q7

def solve(n):

if n==1:

return 5

count = [1 for i in range(6)]

for i in range(3,n+1):

count[1] = count[1]+count[2]+count[3]+count[4]+count[5]

count[2] = count[2]+count[3]+count[4]+count[5]

count[3] = count[3]+count[4]+count[5]

count[4] = count[4]+count[5]

total = 0

for i in range(1,6):

total += i\*count[i]

return total

n = 2

print(solve(n))

Q9

t=[int(input("enter the value"))]

entry=[int(input("enter the no of entry"))]

exit=[int(input("enter the no of exit"))]

count=0

guest=[ ]

for i in range (len(entry)):

count=count+entry[i]-exit[i]

guest.append(count)

print(max(guest))

**DAY2**

#1

def maxProfit(price, n):

profit = [0]\*n

max\_price = price[n-1]

for i in range(n-2, 0, -1):

if price[i] > max\_price:

max\_price = price[i]

profit[i] = max(profit[i+1], max\_price - price[i])

min\_price = price[0]

for i in range(1, n):

if price[i] < min\_price:

min\_price = price[i]

profit[i] = max(profit[i-1], profit[i]+(price[i]-min\_price))

result = profit[n-1]

return result

#2

def combination(l):

for i in range(len(l)):

for j in range(len(l)):

for k in range(len(l)):

if i!=j and j!=k and k!=i:

print(l[i],l[j],l[k])

l=[]

n=int(input("Enter number of elements : "))

for i in range(n):

l.append(int(input("Enter value"+str(i+1)+":")))

print(l,'is the list containing values.')

combination(l)

#3

def solve(nums):

count=0

n=len(nums)

for i in range(n):

for j in range(i+1,n):

if nums[i] == nums[j]:

count+=1

return count

l=[]

n=int(input("Enter number of elements : "))

for i in range(n):

l.append(int(input("Enter value"+str(i+1)+":")))

print(solve(l))

#PYTHON PROGRAM TO DEMONSTRATE CREATION OF LIST

list=["Geeks","For","Geeks"]

print(len(list))

print(list[0])

print(list[2])

print(list[-1])

print(list[-2])

#PYTHON PROGRAM TO DEMONSTRATE ADDITION OF ELEMENTS IN A LIST

list=["Geeks","For","Geeks"]

print(len(list))

print(list[0])

print(list[2])

print(list[-1])

print(list[-2])

**#adding elements to the list using iterator**

list=[ ]

for i in range(1,10):

list.append(i)

print(list)

**#adding of list to a list**

list=[ ]

list1=['for','sample']

list.append(list1)

print(list)

#PYTHON 3 CODE TO REMOVE THE DUPLICATES FROM THE list

**#initiating list**

test\_list=(1,5,3,6,3,5,6,1)

print("the original list is:"+str(test\_list))

res=[ ]

for i in test\_list:

if i not in res:

res.append(i)

print(res)

#PYTHON 3 CODE TO DEMONSTRATE REMOVING DUPLICATES FROM THE LIST WITH set

a=[ ]

n=int(input("enter the number of elements in list:"))

for x in range(0,n):

element=int(input("enter the element"+str(x+1)))

a.append(element)

b=set()

unique=[]

for x in a:

if x not in b:

unique.append(x)

b.add(x);

print("non-duplicate items:")

print(unique)

5

a=[ ]

n=int(input("enter the number of elements in list:"))

for x in range(0,n):

element=int(input("enter element"+str(x+1)))

a.append(element)

temp=a[0]

a[0]=a[n-1]

a[n-1]==temp

print("new list is")

print(a)

#PYTHON PROGRAM TO DEMONSTRATE REMOVAL OF ELEMENTS IN A list

**#creating a list**

list=['S','A','V','E','E','T','H','A','S']

print(list)

list=['S','A','V','E','E','T','H','A','S']

print(list)

**#print elements of a range using slice operation**

sliced\_list=list[3:8]

print(sliced\_list)

**#print elements from a pre-defined point to pre-defined**

sliced\_list=list[5:]

print(sliced\_list)

**#print elements from beginning till end**

sliced\_list=list[:]

print(sliced\_list)

#spliting the list

a=[]

n=int(input("enter the 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)

#sum of list with recruision

def sum\_arr(arr,size):

if(size==0):

return 0

else:

return arr[size-1]+sum\_arr(arr,size-1)

n=int(input("enter the number of elements for list:"))

a=[]

for i in range(0,n):

element=int(input("enter element:"))

a.append(element)

print("the list is:",a)

print("sum id items in list:")

b=sum\_arr(a,n)

print(b)

**DAY3**

#1

def maxProfit(price, n):

profit = [0]\*n

max\_price = price[n-1]

for i in range(n-2, 0, -1):

if price[i] > max\_price:

max\_price = price[i]

profit[i] = max(profit[i+1], max\_price - price[i])

min\_price = price[0]

for i in range(1, n):

if price[i] < min\_price:

min\_price = price[i]

profit[i] = max(profit[i-1], profit[i]+(price[i]-min\_price))

result = profit[n-1]

return result

# Main Segment

price = [2, 30, 15, 10, 8, 25, 80]

print ("Maximum profit is", maxProfit(price, len(price)))

#2

def combination(l):

for i in range(len(l)):

for j in range(len(l)):

for k in range(len(l)):

if i!=j and j!=k and k!=i:

print(l[i],l[j],l[k])

l=[]

n=int(input("Enter number of elements : "))

for i in range(n):

l.append(int(input("Enter value"+str(i+1)+":")))

print(l,'is the list containing values.')

combination(l)

#3

def solve(nums):

count=0

n=len(nums)

for i in range(n):

for j in range(i+1,n):

if nums[i] == nums[j]:

count+=1

return count

l=[]

n=int(input("Enter number of elements : "))

for i in range(n):

l.append(int(input("Enter value"+str(i+1)+":")))

print(solve(l))

#4

def add\_binary\_nums(x, y):

max\_len = max(len(x), len(y))

x = x.zfill(max\_len)

y = y.zfill(max\_len)

result = ''

carry = 0

for i in range(max\_len - 1, -1, -1):

r = carry

r += 1 if x[i] == '1' else 0

r += 1 if y[i] == '1' else 0

result = ('1' if r % 2 == 1 else '0') + result

carry = 0 if r < 2 else 1

if carry !=0 : result = '1' + result

return result.zfill(max\_len)

# Main Segment

print(add\_binary\_nums('11', '1'))

#5

def minJumps(arr, l, h):

if (h == l):

return 0

if (arr[l] == 0):

return float('inf')

min = float('inf')

for i in range(l + 1, h + 1):

if (i < l + arr[l] + 1):

jumps = minJumps(arr, i, h)

if (jumps != float('inf') and

jumps + 1 < min):

min = jumps + 1

return min

#Main Segment

l=[]

n = int(input("Enter number of elements : "))

for i in range(n):

l.append(int(input("Enter element"+str(i+1)+":")))

print("The orginal list is ",l)

print('Minimum number of jumps to reach the end is', minJumps( l, 0, n-1))

#6

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

reversed\_n = 0

while n >0:

rem = n % 10

reversed\_n = reversed\_n \* 10 + rem

n //= 10

if n<0:

print("The number cannot be reversed as it is negative.")

else:

print("Reversed Number: ",reversed\_n)

#7

def permutation(l):

if len(l)==0:

return []

if len(l)==1:

return [l[0]]

a=[]

for i in range(len(l)):

b=l[i]

remlist=l[:i]+l[i+1:]

for j in permutation(remlist):

a+=[b]+j

return a

# Main Segment

l=[]

n=int(input("Enter number of elements : "))

for i in range(n):

l.append(int(input("Enter value"+str(i+1)+":")))

print(l,'is the list containing values.')

for i in permutation(l):

print (i)

#8

def groupAnagrams(l):

anagrams = []

if not l:

return anagrams

nums = [''.join(sorted(word)) for word in l]

d = {}

for i, e in enumerate(nums):

d.setdefault(e,[]).append(i)

for index in d.values():

collection = list(l[i] for i in index)

if len(collection) > 1:

anagrams.append(collection)

return anagrams ,collection

l=[]

n=int(input("Enter number of elements : "))

for i in range(n):

l.append(input("Enter value"+str(i+1)+":"))

print(l,'is the list containing values.')

anagrams = list(groupAnagrams(l))

print(anagrams)

**DAY4**

1

n=int(input("enter the number:"))

for i in range(1,n+1):

if i%3==0 and i%5==0:

print("fizzbuzz")

elif i%3==0:

print("buzz")

else:

print(str(i))

2

t=int(input("enter the number"))

if(t==0):

print("invalid input")

t=t=int(input("enter total users="))

elif(t<0):

print("invalid input")

t=t=int(input("enter total users="))

s=int(input("enter staff users="))

n=(s//3)

if(t<s):

print("invalid input")

elif(t==s):

print("student users are=",t-(s-n))

else:

print("student users are=",t-(s-n))

3

def smallernumberthancurrent(nums):

count=[0]\*len(nums)

for i in range(len(nums)):

for j in range(len(nums)):

if nums[j]<nums[i]:

count[i]+=1

return count

print(smallernumberthancurrent([0,0,0,0]))

6

def delchar(a,b):

if len(b)!=1:

return a

else:

return a.replace(b,"")

a="GOOD EVENING"

print(a)

b=(input("enter the character to be removed:"))

print(delchar(a,b))

a="TAKE CARE"

print(a)

b=(input("enter the character to be removed:"))

print(delchar(a,b))

adef delchar(a,b):

if len(b)!=1:

return a

else:

return a.replace(b,"")

a="GOOD EVENING"

print(a)

b=(input("enter the character to be removed:"))

print(delchar(a,b))

a="TAKE CARE"

print(a)

b=(input("enter the character to be removed:"))

print(delchar(a,b))

a="123456s"

print(a)

b=input("enter the character to be removed:")

print(delchar(a,b))

a="RED ROSE"

print(a)

b=input("enter the charecter to be removed:")

print(delchar(a,b))

a="FLOWER"

print(a)

b=input("enter the character to be removed:")

5

def minjumps(arr,i,h):

if(h==i):

return 0

if(arr[i]==0):

return float('int')

min=float('inf')

for i in range(i+1,h+1):

if(i<1+ arr[i]+1):

jumps=minjumps(arr,i,h)

if(jumps!=float('inf')and

jumps+1<min):

min=jumps+1

return min

arr=[2,3,0,1,4]

n=len(arr)

print('minimum number ofn jumps to reach',

'end is',minjumps(arr,0,n-1))

7

def countstrings(n,start):

if n==0:

return 1

count=0

for i in range(start,5):

count+=countstrings(n-1,i)

return count

def countvowelstrings(n):

return countstrings(n,0)

n=int(input("enter a num:"))

print(countvowelstrings(n))

9

month=input("enter month")

day=int(input("enter no.of days"))

if month in ('january','february','march'):

season='winter'

elif month in ('april','may','june',):

season='summer'

elif month in ('july','agust','september'):

season='spring'

else:

season='autumn'

if(month=='march')and(day>19):

season='summer'

elif(month=='june')and(day>20):

season='spring'

elif(month=='december')and(day>20):

season='winter'

print("season is",season)

8

def roman\_to\_int(s):

roman\_dict={

'I':1,

'V':5,

'X':10,

'L':50,

'C':100,

'D':500,

'M':1000

}

total=10

i=0

while i<len(s):

if i+1<len(s) and roman\_dict[s[i]]<roman\_dict[s[i+1]]:

total+=roman\_dict[s[i]]

i+=1

return total

print(roman\_to\_int("III"))

print(roman\_to\_int("LVIII"))

print(roman\_to\_int("MCMXCIV"))

print(roman\_to\_int("LV"))

10

staring="i am a python progarammer"

words=staring.split()

list1=list(words)

list2=[]

for i in list1[: : -1]:

list2.append(i)

print(list2)

print("converting")

strconv=" "

for x in list2:

strconv+=''+x

print(strconv)

**DAY5**

1

num1=int(input("enter the number1:"))

num2=int(input("enter the number2:"))

sumdivisor=0

productdivisor=0

print("THE COMMON DIVISORS OF NUMBER",num1,"AND",num2,"ARE-")

for i in range(1,min(num1,num2)+1):

if num1%i==num2%i==0:

sumdivisor=sumdivisor+i

productdivisor=productdivisor\*i

if(productdivisor%sumdivisor==0):

print("YEAH")

else:

print("NAH")

2

def shuffle(n,m):

for j in range(8):

print(n[j],m[j],n[j+1],m[j+1])

list1=[]

list2=[]

a=int(input("enter the number of elements for list 1:"))

for i in range(1,a+1):

b=int (input("enter the number:"))

list1.append(b)

print(list1)

c=int(input("enter the number of elements for list 2:"))

for i in range(1,c+1):

d=int(input("enter the number:"))

list2.append(d)

print(list2)

print(shuffle(list1,list2))

#3

def length(str):

lis=list(str.split(" "))

return len(lis[-1])

str=input('enter the string to find the last word count: ')

print("the length of the last word is ",len(str))

#4

def salaryCalculation(grade,salary):

if(salary>10000):

if(grade=='A'):

salary=salary+(salary/5)

print(salary)

elif(grade=='B'):

salary=salary+(salary/10)

print(salary)

else:

if(grade=='A'):

salary=salary+(salary/7)

print(salary)

elif(grade=='B'):

salary=salary+(salary/12)

print(salary)

grade=input("Enter the Grade of your Employee"+"Like 'A' or 'B' ")

salary=int(input("Enter your employee salary"))

salaryCalculation(grade,salary)

#5

num1=int(input("Enter the number 1 :"))

num2=int(input("Enter the number 2 :"))

sumDivisor=0

ProductDivisor=0

print("THE COMMON DIVISORS OF NUMBER",num1,"AND",num2,"ARE-")

for i in range(1,min(num1,num2)+1):

if num1%i==num2%i==0:

sumDivisor=sumDivisor+i

ProductDivisor=ProductDivisor\*i

if(ProductDivisor%sumDivisor==0):

print("YEAH")

else:

print("NAH")

#8

num1=int(input("enter the number 1: "))

num2=int(input("enter the number 2: "))

sumDivisor=0

ProductDivisor=0

print("the common divisors of number ",num1,"and ",num2,"are-")

for i in range(1,min(num1,num2)+1):

if num1%i==num2%i==0:

sumDivisor=sumDivisor+i

ProductDivisor= ProductDivisor\*i

if(ProductDivisor%sumDivisor==0):

print("yeah..!")

else:

print("nahh..")

#9

def shuffle(n,m):

for j in range(8):

print(n[j],m[j],n[j+1],m[j+1])

list1=[]

list2=[]

a=int(input("Enter the number of elements for list 1 :"))

for i in range (1,a+1):

b=int(input("Enter the number :"))

list1.append(b)

print(list1)

c=int(input("Enter the number of elements for list 2 :"))

for i in range (1,c+1):

d=int(input("Enter the number :"))

list2.append(d)

print(list2)

print(shuffle(list1,list2))

#10

string = "I am a python programmer"

words = string.split()

list1 = list(words)

list2 =[]

for i in list1[: : -1]:

list2.append(i)

print(list2)

print("Converting to string")

strconv=" "

for x in list2:

strconv+= ' '+x

print(strconv)

practice problems

#PYTHON PROGRAM TO DEMONSTRATE CREATION OF LIST

list=["Geeks","For","Geeks"]

print(len(list))

print(list[0])

print(list[2])

print(list[-1])

print(list[-2])

#PYTHON PROGRAM TO DEMONSTRATE ADDITION OF ELEMENTS IN A LIST

list=["Geeks","For","Geeks"]

print(len(list))

print(list[0])

print(list[2])

print(list[-1])

print(list[-2])

**#adding elements to the list using iterator**

list=[ ]

for i in range(1,10):

list.append(i)

print(list)

**#adding of list to a list**

list=[ ]

list1=['for','sample']

list.append(list1)

print(list)

#PYTHON 3 CODE TO REMOVE THE DUPLICATES FROM THE list

**#initiating list**

test\_list=(1,5,3,6,3,5,6,1)

print("the original list is:"+str(test\_list))

res=[ ]

for i in test\_list:

if i not in res:

res.append(i)

print(res)

#PYTHON 3 CODE TO DEMONSTRATE REMOVING DUPLICATES FROM THE LIST WITH set

a=[ ]

n=int(input("enter the number of elements in list:"))

for x in range(0,n):

element=int(input("enter the element"+str(x+1)))

a.append(element)

b=set()

unique=[]

for x in a:

if x not in b:

unique.append(x)

b.add(x);

print("non-duplicate items:")

print(unique)

5

a=[ ]

n=int(input("enter the number of elements in list:"))

for x in range(0,n):

element=int(input("enter element"+str(x+1)))

a.append(element)

temp=a[0]

a[0]=a[n-1]

a[n-1]==temp

print("new list is")

print(a)

#PYTHON PROGRAM TO DEMONSTRATE REMOVAL OF ELEMENTS IN A list

**#creating a list**

list=['S','A','V','E','E','T','H','A','S']

print(list)

list=['S','A','V','E','E','T','H','A','S']

print(list)

**#print elements of a range using slice operation**

sliced\_list=list[3:8]

print(sliced\_list)

**#print elements from a pre-defined point to pre-defined**

sliced\_list=list[5:]

print(sliced\_list)

**#print elements from beginning till end**

sliced\_list=list[:]

print(sliced\_list)

#spliting the list

a=[]

n=int(input("enter the 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)

#sum of list with recruision

def sum\_arr(arr,size):

if(size==0):

return 0

else:

return arr[size-1]+sum\_arr(arr,size-1)

n=int(input("enter the number of elements for list:"))

a=[]

for i in range(0,n):

element=int(input("enter element:"))

a.append(element)

print("the list is:",a)

print("sum id items in list:")

b=sum\_arr(a,n)

print(b)