***CS PROGRAMM FILE***

**NAME** = *Aayush shukla*

**ROLL NO:** = *01*

**CLASS** = *XIIth-A*

#**QUES**:-Take two number from the user and check whether it is prime or not.

#**PROGRAM**:-

for w in range(2):

num=int(input('Enter the number :'))

lim=int(num/2)+1

for i in range(2,lim):

rem=num%i

if rem==0:

print(num,'is not a prime number')

break

else:

print(num,'is a prime number')

#**OUTPUT**:-

'''

Enter the number :1

1 is a prime number

Enter the number :2

2 is a prime number

'''

#**QUES** :- Take two number from the user and if the number is even then display its square and if number is odd then display its cube.

#**PROGRAM** :-

for w in range(2):

num=int(input('Enter the number :'))

if num%2==0:

sq=num\*\*2

print('%d is a even num'%(num))

print('Square if %d is %d'%(num,sq))

else:

cube=num\*\*3

print('%d is a odd number'%(num))

print('cube of %d is %d'%(num,cube))

#**OUTPUT**:-

'''

Enter the number :2

2 is a even num

Square if 2 is 4

Enter the number :3

3 is a odd number

cube of 3 is 27

'''

##**QUES** :- Append five into a list and find the smallest number from the list and display it along with its index.

#**PROGRAM**:-

lst=[]

for w in range(5):

num=input('Enter the number :')

lst.append(num)

length=len(lst)

min\_ele=lst[0]

min\_index=0

for i in range(1,length):

if lst[i] < min\_ele:

min\_ele=lst[i]

min\_index=i

print('Given list is :',lst)

print('The minimum element of the given list is : ',min\_ele)

print(min\_ele,'at index',min\_index)

#**OUTPUT**:-

'''

Enter the number :10

Enter the number :20

Enter the number :30

Enter the number :40

Enter the number :50

Given list is : ['10', '20', '30', '40', '50']

The minimum element of the given list is : 10

10 at index 0

'''

#**QUES** :- Write a program to find the given element in a list of numbers.

#**PROGRAM** :-

lst=[1,13,10,30,4,4,5,15,24]

print('list =',lst)

len=len(lst)

ele=int(input('Enter the number for finding its frequency: '))

count=0

for i in range(0,len):

if ele==lst[i]:

count+=1

if count==0:

print(ele,'not found in the given list ')

else:

print(ele,'has frequency',count,'in the given list')

#**OUTPUT**:-

'''

list = [1, 13, 10, 30, 4, 4, 5, 15, 24]

Enter the number for finding its frequency: 4

4 has frequency 2 in the given list

'''

#**QUES**:-Take three number from the user and display the greatest number.

#**PROGRAM** :

lst=[]

for w in range (3):

num=int(input('Enter the number :'))

lst.append(num)

grt=lst[0]

for w in lst:

if w>grt:

grt=w

print('Greatest number will be : ',grt)

#**OUTPUT**:-

'''

Enter the number :2

Enter the number :11

Enter the number :2

Greatest number will be : 11

'''

#**QUES**:-Write a program to calculate the mean of a list of a number.

#**PROGRAM**:-

lst=[2,4,6,8,10]

print('List = ',lst)

length=len(lst)

mean=sum=0

for i in range(0,length):

sum+=lst[i]

mean=sum/length

print('Given lsit is : ',lst)

print('The mean of the given list is : ',mean)

#**OUTPUT**:-

'''

List = [2, 4, 6, 8, 10]

Given lsit is : [2, 4, 6, 8, 10]

The mean of the given list is : 6.0

'''

#**QUES** :- Write a Program to input names of n students and store them in a tuple. Also, input a name from the user and find if this student is present in the tuple.

#**PROGRAM** :-

lst=[]

n=int(input('Enter the total number of names you want to enter : '))

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

nme=input('Enter the name of student'+str(i)+':')

lst.append(nme)

tpl=tuple(lst)

print('Tuple :- ',tpl)

nam=input('Enter ther name to be searched for : ')

if nam in tpl :

print(nam,'exists in the tuple')

else:

print(nam,'does not exist in tuple')

#**OUTPUT**:-

'''

List = [2, 4, 6, 8, 10]

Given lsit is : [2, 4, 6, 8, 10]

The mean of the given list is : 6.0

Enter the total number of names you want to enter : 3

Enter the name of student1:abc

Enter the name of student2:def

Enter the name of student3:ghi

Tuple :- ('abc', 'def', 'ghi')

Enter ther name to be searched for : def

def exists in the tuple

'''

#**QUES** :- Write a program to create a dictonary M which stores the marks of the students of class with roll nu,bers as the keys and marks as the values. Also get the number of student as input.

#**PROGRAM** :-

M={}

n=int(input('Enter the number of records you want to enter : '))

for a in range(n):

rno=int(input('Enter the roll number : '))

mark=float(input('Enter the marks : '))

M[rno]=mark

print('Dic :-',M)

#**OUTPUT** :-

'''

Enter the number of records you want to enter : 3

Enter the roll number : 1

Enter the marks : 96.7

Enter the roll number : 2

Enter the marks : 78.9

Enter the roll number : 3

Enter the marks : 90.0

Dic :- {1: 96.7, 2: 78.9, 3: 90.0}

'''

#**QUES** :- Write a Program to create a dictonary with roll number,name and marks of n students in a class and display the names of students whose marks are above 75.

#**PROGRAM** :-

n=int(input('Enter the number of records you want to enter : '))

stu={}

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

print('Enter the details of students',(i))

rollno=int(input('Roll number : '))

name=input('Name : ')

marks=float(input('Marks : '))

d={'Roll\_no':rollno,'Name':name,'Marks':marks}

key='stu'+str(i)

stu[key]=d

print('Dic :- ',d)

print('students with marks more than 75 are : ')

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

key='stu'+str(i)

if stu[key]['Marks']>=75:

print(stu[key])

#**OUTPUT**:-

'''

Enter the number of records you want to enter : 2

Enter the details of students 1

Roll number : 1

Name : Ram

Marks : 76.0

Enter the details of students 2

Roll number : 2

Name : Shyam

Marks : 74.8

Dic :- {'Roll\_no': 2, 'Name': 'Shyam', 'Marks': 74.8}

students with marks more than 75 are :

{'Roll\_no': 1, 'Name': 'Ram', 'Marks': 76.0}

'''

#**QUES** :- Define a function which counts vowels and consonant in a word.

#**PROGRAM** :-

def count(val):

vov=con=0

for i in range(len(val)):

if val[i] in ['a','e','i','o','u']:

vov+=1

else:

con+=1

print('Count of vowels is : ',vov)

print('Count of consonant is : ',con)

x=input('Enter the value :')

count(x)

#**OUTPUT** :-

'''

Enter the value :hellohowareyou

Count of vowels is : 7

Count of consonant is : 7

'''

#**QUES** :- Define a function reading few lines from the user and write it to a text file stu.txt until an empty line is given as input and read the same text file and copy all the words starting with capita; alphabet to a new text file capital.txt. display contnets of both the file.

#**PROGRAM** :-

def read():

f=open('stu.txt','w+')

n=open('capital.txt','w+')

print('Enter few lines : ')

while True :

user\_input=input()

if len(user\_input)==0:

break

f.write(user\_input+'\n')

f.seek(0)

file=f.read()

words=file.split()

for word in words:

if word[0].isupper():

n.write(word+'\n')

f.seek(0)

n.seek(0)

stu=f.read()

capital=n.read()

print()

print('Content of the file stu.txt :\n',stu)

print()

print('Content of the file capital.txt:\n',capital)

f.close()

n.close()

read()

#**OUTPUT** :-

'''

Enter few lines :

HEllo

how

Are

you

Content of the file stu.txt :

HEllo

how

Are

you

Content of the file capital.txt:

HEllo

Are

'''

#**QUES** :- Read a text file x.txt and built a text file y.txt that should be reverse of x.txt.

#**PROGRAM** :-

def reverse(x,y):

f1=open(x,'r')

f2=open(y,'w+')

k=f1.readlines()

for w in range(-1,-len(k)-1,-1):

x=k[w].rstrip('\n')

line=x

newlin=''

for i in range(-1,-len(line)-1,-1):

newlin=newlin+line[i]

print(newlin)

f2.write(newlin+'\n')

reverse('stu.txt','newstu.txt')

#OUTPUT :-

'''Enter few lines :

this is line one

this is line two

Content of the file stu.txt :

this is line one

this is line two

Content of the file capital.txt:

owt enil si siht

eno enil si siht

'''

#**QUES** :- Write a program to read a text file line by line and display each word seperated by a #.

#**PROGRAM** :-

myfile=open('stu.txt','r')

line=' '

while line:

line=myfile.readline()

for word in line.split():

print(word,end='#')

print()

myfile.close()

#**OUTPUT** :-

'''

hello#how#are#you#

this#is#line#one#

this#is#line#two#

'''

#**QUES** :- Read few lines from the users and write over a text file my2.txt file untill an empty line is given as input and display file contents.

#**PROGRAM** :-

f=open('my2.txt','w+')

print('Enter few lines :-')

while True :

x=input()

if x=='':

break

else:

f.write(x+'\n')

f.seek(0)

r=f.read()

print('file content :\n',r)

f.close()

#**OUTPUT** :-

'''

Enter few lines :-

hello

how

are

you

file content :

hello

how

are

you

'''

#**QUES** :-Define a function having a list of strings as its argument and function would display the frequency of the upper case alphabets in each string and return the sum of the digits present in all string .

#**PROGRAM** :-

def fn(lst):

sm=0

for w in lst:

fr=0

for a in w:

if a.isupper():

fr+=1

if a.isdigit():

sm+=int(a)

print('Total upper case alphabets in',w,'is',fr)

return sm

ls=['Hello123','HOw456','ARE789']

print('sum of the digits : ',fn(ls))

#**OUTPUT** :-

'''

Total upper case alphabets in Hello123 is 1

Total upper case alphabets in HOw456 is 2

Total upper case alphabets in ARE789 is 3

sum of the digits : 45

'''

#**QUES** :- Write a program to get students data(roll no,name,marks)from the usersand write onto a binary file. The program should be able to get data from the user and write onto the file as long as the user wants.

#**PROGRAM** :-

import pickle

stu={}

f=open('stu.dat','wb+')

n=int(input('Enter the number of records you want enter :- '))

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

print('Enter the records of the student ',w)

rno=int(input('Roll no :- '))

name=input('Name :- ')

marks=float(input('Marks :- '))

stu['Roll\_no']=rno

stu['Name']=name

stu['Marks']=marks

pickle.dump(stu,f)

f.seek(0)

try:

print('Contents :- ')

while True :

stu=pickle.load(f)

print(stu)

except EOFError:

f.close()

#**OUTPUT** :-

'''

Enter the number of records you want enter :- 2

Enter the records of the student 1

Roll no :- 1

Name :- Ram

Marks :- 67.78

Enter the records of the student 2

Roll no :- 2

Name :- Shyam

Marks :- 99.9

Contents :-

{'Roll\_no': 1, 'Name': 'Ram', 'Marks': 67.78}

{'Roll\_no': 2, 'Name': 'Shyam', 'Marks': 99.9}

'''

#**QUES** :- Write a program to open a file stu.dat and search for records that user want according to roll number. If found display the record.

#**PROGRAM** :-

import pickle

stu={}

found=False

f=open('stu.dat','rb')

rno=int(input('Enter the roll num for displaying its record :- '))

try:

while True:

stu=pickle.load(f)

if stu['Roll\_no'] == rno :

print(stu)

found=True

except EOFError:

if found==False:

print('No search record is found in the file.....')

else:

print('Search successful......')

f.close()

#**OUTPUT** :-

'''

Enter the roll num for displaying its record :- 1

{'Roll\_no': 1, 'Name': 'Ram', 'Marks': 67.78}

Search successful......

Enter the roll num for displaying its record :- 3

No search record is found in the file.....

'''

#**QUES** :- Write a program to create a csv file to store students record (Roll no., Name, Marks ). Obtain the data from the user till user wants.

#**PROGRAM** :-

import csv

def write():

with open ('student.csv','w') as f:

fobj=csv.writer(f)

fobj.writerow(['Roll\_no','Name','Marks'])

while True:

rno=int(input('Roll num :- '))

nme=input('Name :- ')

mrks=float(input('Marks :- '))

fobj.writerow([rno,nme,mrks])

ch=int(input('1) Enter more\n2) Exit\n3) Enter your choice :-'))

if ch==2:

break

def reader():

with open ('student.csv','r',newline='\n') as f:

fobj2=csv.reader(f)

for i in fobj2:

print(i)

write()

reader()

#**OUTPUT** :-

'''

Roll num :- 1

Name :- abc

Marks :- 45

1) Enter more

2) Exit

3) Enter your choice :-1

Roll num :- 2

Name :- def

Marks :- 90

1) Enter more

2) Exit

3) Enter your choice :-2

['Roll\_no', 'Name', 'Marks']

['1', 'abc', '45.0']

['2', 'def', '90.0']

'''

#**QUES** :- Create a csv file for records of book(title,author,price). Read author name from and display sum of price of all books of this author.

#**PROGRAM** :-

import csv

f=open('book.csv','w+',newline='')

header=['Title','Author','Price']

write=csv.writer(f)

write.writerow(header)

while True:

title=input('Title :-')

if len(title)==0:

break

author=input('Author :-')

price=input('Price :-')

rec=[title,author,price]

write.writerow(rec)

f.seek(0)

name=input('Enter Author name : ')

r=csv.reader(f)

head=next(r)

sm=0

for rec in r :

if rec[1]==name:

sm+=int(rec[2])

print(f'Sum of price of all books belongs to {name} is {sm}')

#**OUTPUT** :-

'''

Title :-English

Author :-abc

Price :-100

Title :-Physics

Author :-def

Price :-200

Title :-Hindi

Author :-abc

Price :-150

Title :-

Enter Author name : abc

Sum of price of all books belongs to abc is 250

'''

#**QUES** :-Write a program to get item details (code,description and price) for multiple itmes from the user and create a csv file writing all the item details in one go .

#**PROGRAM** :-

import csv

f=open('itms.csv','w')

iwriter=csv.writer(f)

ans='y'

itemrec=[['Item\_Name','Description','Price']]

print('Enter item details')

while ans=='y':

iname=input('Enter Item code :- ')

desc=input('Enter name :- ')

price=float(input('Enter Price :- '))

itemrec.append([iname,desc,price])

ans=input('Want to enter more record :- ')

else:

iwriter.writerows(itemrec)

print('Records written successfully : ')

f.close()

#**OUTPUT** :-

'''

Enter item details

Enter Item code :- 1

Enter name :- chair

Enter Price :- 2000

Want to enter more record :- y

Enter Item code :- 2

Enter name :- table

Enter Price :- 3500

Want to enter more record :- n

Records written successfully :

'''

#**QUES** :- Define a recursive function recurfactorial(n) in python to calculate and return the factorial of a number n passed to the parameter.

#**PROGRAM** :-

def recurfactorial(n):

if n==1:

return n

else:

return n\*recurfactorial(n-1)

num=int(input('Enter the number :-'))

if num<0:

print('No Factorial for negative number....... ')

elif num==0:

print('The factorial of 0 is 1')

else:

print('The factorial of',num,'is',recurfactorial(num))

#**OUTPUT** :-

'''

Enter the number :-4

The factorial of 4 is 24

Enter the number :-0

The factorial of 0 is 1

Enter the number :--9

No Factorial for negative number.......

'''

#**QUES** :- Define a recursive function to add all elements fully divisible by n in the range x and y inclusively (eg:- x=6,y=25,n=7 therefore elements are 7,14,21).

#**PROGRAM** :-

def sm(x,y,n):

if x<=y:

if x%n==0:

return x+ sm(x+1,y,n)

else:

return sm(x+1,y,n)

else:

return 0

a=sm(1,10,2)

print('sum of all the elements is :-',a)

#**OUTPUT** :-

'''

sum of all the elements is :- 30

'''

#QUES :-Write a python databses connectivity program that delete records from stationary table of database practice .

#**PROGRAM** :-

import mysql.connector as c

con=c.connect(host='localhost',user='root',password='',database='practice',charset='utf8')

if con.is\_connected():

print('Successfully connected')

cursor=con.cursor()

print('Displaying records before deleting..............')

cursor.execute('select\*from stationary')

data=cursor.fetchall()

for a in data:

print(a)

nme=input('Enter the name for deleting the record :-')

que='delete from stationary where name="%s"'%(nme)

cursor.execute(que)

print()

cursor.execute('select\*from stationary')

data=cursor.fetchall()

print('Displaying records after deleting.......')

for w in data :

print(w)

con.commit()

con.close()

print('Record deleted completely.......')

#**OUTPUT** :-

'''

Successfully connected

Displaying records before deleting..............

(1, 'pen', 10, 'Natraj')

(3, 'pencil', 10, 'Doms')

(4, 'sketch pen', 10, 'Doms')

Enter the name for deleting the record :-pen

Displaying records after deleting.......

(3, 'pencil', 10, 'Doms')

(4, 'sketch pen', 10, 'Doms')

Record deleted completely.......

'''

# **QUES** :- Write a python connnectivity program that update the name of the student from student table of databse practice.

# **PROGRAM** :-

import mysql.connector as c

con=c.connect(host='localhost',user='root',password='',database='practice',charset='utf8')

if con.is\_connected():

print('Successfully connected......')

cursor=con.cursor()

print()

print('Displaying records before updating..............')

cursor.execute('select\*from student')

data=cursor.fetchall()

for w in data:

print(w)

rno=int(input('Enter the roll number for updating the record :-'))

new\_nme=input('Enter the new name of the student :-')

que='update student set name="%s" where rno=%d'%(new\_nme,rno)

cursor.execute(que)

print()

print('Displaying the record after updating.......')

cursor.execute('select\*from student')

dat=cursor.fetchall()

for w in dat:

print(w)

con.commit()

con.close()

print('Record updated successfully........')

#**OUTPUT** :-

'''

Successfully connected......

Displaying records before updating..............

(1, 'abc', 11, 78)

(2, 'def', 11, 95)

(3, 'ghi', 11, 30)

(4, 'jkl', 11, 32)

Enter the roll number for updating the record :-2

Enter the new name of the student :-Ram

Displaying the record after updating.......

(1, 'abc', 11, 78)

(2, 'Ram', 11, 95)

(3, 'ghi', 11, 30)

(4, 'jkl', 11, 32)

Record updated successfully........

'''

#**QUES** :- Write a python connectivity program to insert values in table stu1 of database project.

#**PROGRAM** :-

import mysql.connector as c

con=c.connect(host='localhost',user='root',password='',database='project',charset='utf8')

if con.is\_connected():

print('Successfully connected......')

cursor=con.cursor()

print()

print('Displaying records before inserting..............')

cursor.execute('select\*from stu1')

data=cursor.fetchall()

for w in data:

print(w)

rno=int(input('Enter the roll number :-'))

nme=input('Enter the name :-')

adm=int(input('Enter the admission no. :-'))

clss=int(input('Enter the class :-'))

que='insert into stu1 values(%d,"%s",%d,%d)'%(rno,nme,clss,adm)

cursor.execute(que)

print()

print('Displaying records after inserting.......')

cursor.execute('select\*from stu1')

dat=cursor.fetchall()

for w in dat:

print(w)

con.commit()

con.close()

print('Record inserted successfully........')

#**OUTPUT** :-

'''

Successfully connected......

Displaying records before inserting..............

(1, 'Pranjal kumar singh', 12, 1212)

(2, 'Krish mishra', 12, 1100)

(3, 'Dishank Rao', 11, 1111)

Enter the roll number :-4

Enter the name :-Aayush shukla

Enter the admission no. :-3850

Enter the class :-12

Displaying records after inserting.......

(1, 'Pranjal kumar singh', 12, 1212)

(2, 'Krish mishra', 12, 1100)

(3, 'Dishank Rao', 11, 1111)

(4, 'Aayush shukla', 12, 3850)

Record inserted successfully........

'''

