**GRADE 12 PRACTICAL FILE**

**Q1. WRITE A PROGRAM IN PYTHON TO PERFORM ARITHMETIC OPERATIONS.**

**SOURCE CODE:-**

print("Enter 2 numbers")

a=int(input(""))

b=int(input(""))

print("""Enter:

1. Addition

2. Subtraction

3. Multiplication

4. Division""")

n = int(input(""))

c=0

if n==1:

c=a+b

print("Output: ",c)

elif n==2:

c=a-b

print("Output: ",c)

elif n==3:

c=a\*b

print("Output: ",c)

elif n==4:

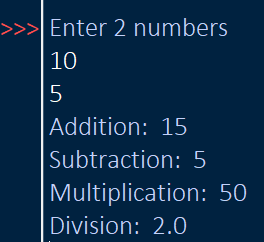
c=a/b

print("Output: ",c)

else:

print("Wrong Input")

**OUTPUT:**



**Q2. WRITE A PYTHON PROGRAM TO DISPLAY FIBONACCI SERIES.**

**SOURCE CODE:-**

x = 1

y = 0

n = int(input("Enter number of digits to be displayed in the fibonacci series: "))

print("Fibonacci Series:")

for i in range(n):

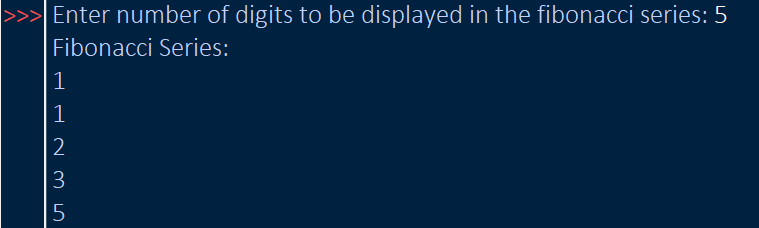
z = x + y

x = y

y = z

print(z)

**OUTPUT:-**



**Q3. WRITE A PROGRAM TO FIND FACTORIAL OF A NUMBER.**

**SOURCE CODE:-**

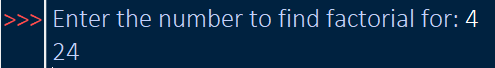
number = int(input("Enter the number to find factorial for: "))

for i in range(number - 1,0,-1):

number = number\*i

print(number)

**OUTPUT:-**



**Q4. WRITE A PYTHON PROGRAM TO GENERATE RANDOM NUMBER BETWEEN 1 TO 6.**

**SOURCE CODE:-**

import random

print(random.randint(1,6))

**OUTPUT:-**



**Q5. Write a Python Program to Read a text file "Story.txt" line by line and display each word separated by '#'.**

**SOURCE CODE:-**

f=open("story.txt","w+")

f.writelines("hello world")

f.close()

f=open("story.txt","r+")

a=""

for i in f:

i.strip()

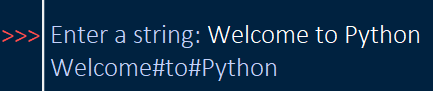
word = i.split()

a = "#".join(word)

print(a)

f.close()

**OUTPUT:-**



**Q6. WRITE A PYTHON PROGRAM TO READ A TEXT FILE AND DISPLAY THE NUMBER OF VOWELS/CONSONANTS/LOWER CASE/ UPPER CASE CHARACTERS.**

**SOURCE CODE:-**

#Reading The File

f=open("file.txt","w")

f.writelines("hello world")

f.close()

f=open("file.txt","r")

x=f.readlines()

for line in x:

words=line.split()

print(words)

vow=0

con=0

low=0

upp=0

for i in range(0,len(words),1):

a=words[i]

for y in range(0,len(a),1):

if a[y].isalpha():

b=a[y]

if b.islower():

low+=1

else:

upp+=1

if a[y].lower() in "aeiou":

vow+=1

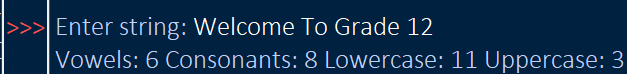
else:

con+=1

print(vow,con,low,upp)

f.close()

**OUTPUT:-**



**Q7. Write a python program to read lines from a text file "Sample.txt" and copy those lines into another file which are starting with an alphabet 'a' or 'A'.**

**SOURCE CODE:-**

file\_obj=open("sample.txt","w")

a = input("Enter string: ")

file\_obj.writelines(a)

file\_obj.close()

file\_obj = open("Sample.txt", "r+")

file\_obj2 = open("Output.txt", "w+")

i=file\_obj.readlines()

for line in i:

r=line.split()

for x in r:

if x.startswith("a") or x.startswith("A"):

file\_obj2.write('"')

file\_obj2.write(x)

file\_obj2.write('"')

file\_obj2.write( " ")

file\_obj.close()

file\_obj2.close()

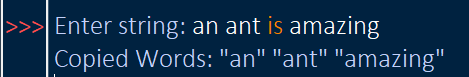
file\_obj2 = open("Output.txt", "r+")

d = file\_obj2.read()

print("Copied Words:",d)

file\_obj2.close()

**OUTPUT:-**



**Q8. To write a Python Program to Create a binary file with roll number and name. Search for a given roll number and display the name, if not found display appropriate message.**

**SOURCE CODE:-**

L = []

while True:

print("Enter what you want to do with list(push / pop): ")

x = input()

if x == "push":

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

for i in range(n):

ap = input("Enter values one by one: ")

L.append(ap)

elif x == "pop":

L.pop(len(L)-1)

act = input("Do you want to continue? (y/n) :" )

if act == "y":

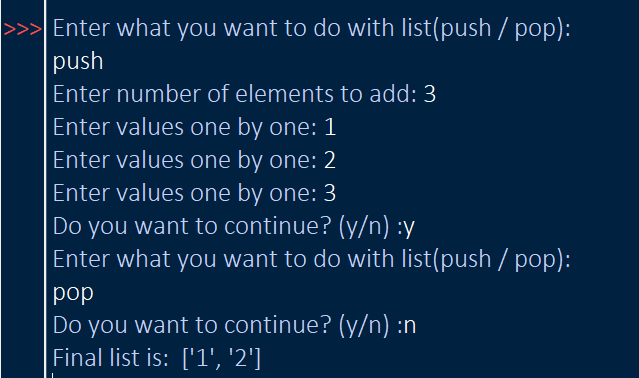
continue

elif act == "n":

break

print("Final list is: ", L)

**OUTPUT:-**



**Q9. To write a Python Program to Create a binary file with roll number, name, mark and update/modify the mark for a given roll number.**

**SOURCE CODE:-**

#Q- Write a program to open a binary file, add name, roll number, marks in the file. The content should be able to be updated whenever required.

import pickle

count=cnt = 1

file\_object = open("File1.bin","wb")

while True:

print("RECORD NO.: ",count)

print()

name = input("Enter Name : ")

print()

rollno = int(input("Enter Roll Number : "))

print()

marks = int(input("Enter Marks : "))

print()

student\_data = [name,rollno,marks]

pickle.dump(student\_data,file\_object)

ans = input("Do you want to enter more records? (y/n) ")

if ans.lower() == "n":

break

count+=1

cnt = count

count=1

file\_object.close()

rename = ""

rerollno = 0

remarks = -1

for y in range(0,cnt-1):

count = 1

f= open("File1.bin","rb")

a = pickle.load(f)

f.close()

f = open("File1.bin","wb")

for x in a:

print()

print("For RECORD NO. ",count)

n = int(input('''Do you want to :

1 - Change name

2 - Change Roll Number

3 - Change Marks

4 - Skip to Next Record

Enter your choice : '''))

count+=1

if n==1:

rename = input("Enter new name : ")

a[n-1] = rename

elif n==2:

rerollno = int(input("Enter new roll number : "))

a[n-1] = rerollno

elif n==3:

remarks = int(input("Enter new marks : "))

print(a)

a[n-1] = remarks

print(a)

elif n==4:

continue

if rename !="" or rerollno !=0 or remarks!=-1:

f = open("File1.bin","wb")

pickle.dump(a,f)

f.close()

print()

ans = input("Do you want to change more records? (y/n) ")

if ans.lower() == "y":

count=1

if ans.lower() == "n":

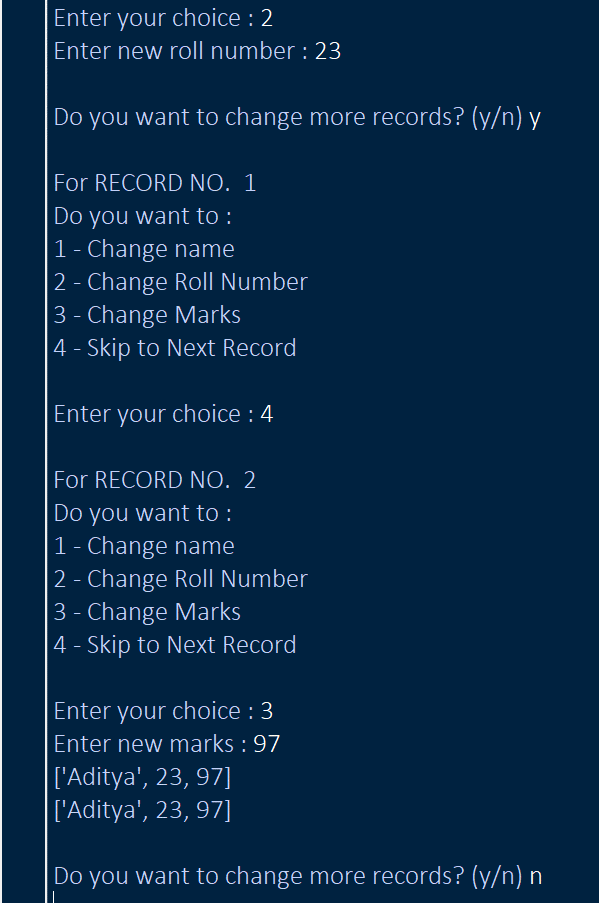
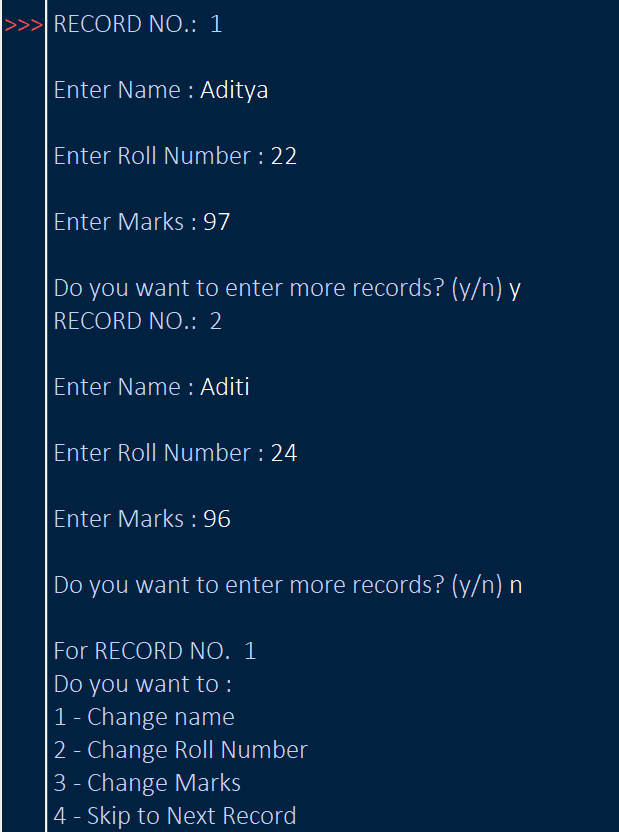
break

if ans.lower() == "n":

break

f.close()

**OUTPUT:-**



**Q10. To write a Python program to implement Stack using a list data-structure.**

**SOURCE CODE:-**

def push(list1):

list1.append(int(input("Enter element to add to stack: ")))

def pop(list1):

list1.pop()

def isempty(list1):

n = len(list1)

if n==0:

print("Stack is empty")

else:

print("Stack has",n,"elements")

def display(list1):

print(list1)

list1=[]

for x in range(int(input("Enter number of elements: "))):

list1.append(int(input("Enter element: ")))

while True:

a = int(input(("Enter 1 to add elements, 2 to remove topmost element, 3 to check if stack is empty, 4 to show stack, 5 to end interaction: ")))

if a==1:

push(list1)

if a==2:

pop(list1)

if a==3:

isempty(list1)

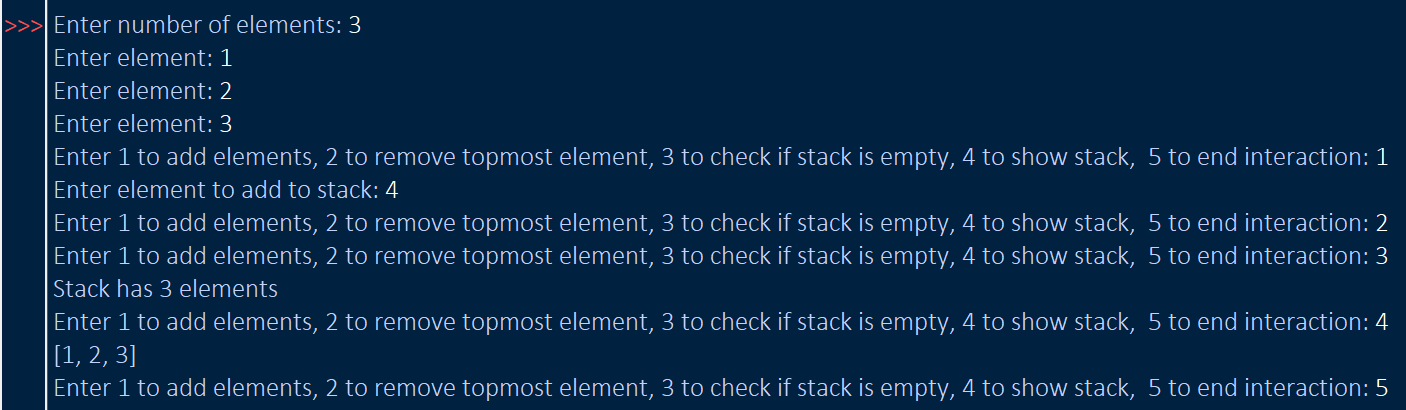
if a==4:

display(list1)

if a==5:

break

**OUTPUT:-**



**Q11. To write a Python Program to integrate MYSQL with Python by inserting records to Emp table and display the records.(Connection between Python and MySQL).**

**SOURCE CODE:-**

import mysql.connector as mc

def add():

con = mc.connect(host="localhost", user="root", passwd='pict')

cur = con.cursor()

cur.execute("create database if not exists temp;")

cur.execute("use temp")

cur.execute("create table if not exists emp(eid int, ename varchar(20), salary int, cont bigint, primary key(eid));")

print("Enter the number of Employees.")

n=int(input(""))

for x in range(n):

eid = int(input("Enter the Employee ID: "))

ename = input("Enter the name of the Employee: ")

salary = input("Enter the Employee's Salary: ")

cont = int(input("Enter the Employee's contact number: "))

st = "insert into emp values({} , '{}' , '{}' , {})".format(eid,ename,salary,cont)

cur.execute(st)

con.commit()

con.close()

def show():

con = mc.connect(host="localhost", user="root", passwd='pict')

cur = con.cursor()

cur.execute("use temp")

cur.execute("select \* from emp")

data=cur.fetchall()

# hdr=['RollNo','Name','Address','ContactNumber']

# print(tabulate(data,headers=hdr,tablefmt="outline"))

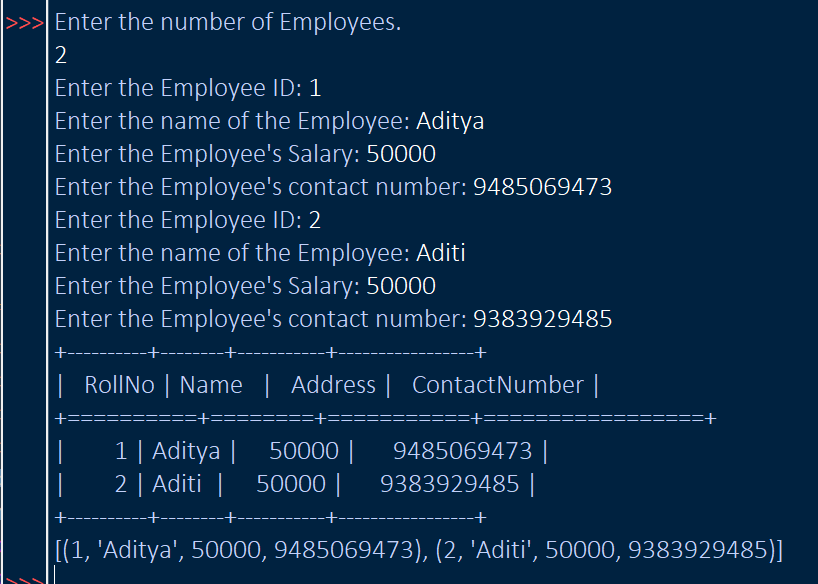
print(data)

con.close()

add()

show()

**OUTPUT:-**



**Q12. To write a Python Program to integrate MYSQL with Python to search an Employee using EMPID and display the record if present in already existing table EMP, if not display the appropriate message. .(Connection between Python and MySQL).**

**SOURCE CODE:-**

import mysql.connector

mycon = mysql.connector.connect(host = "localhost", user = "root" , passwd = "Arjun@123", database = "practical" )

mycur = mycon.cursor()

while True:

print("Enter id of employee you wantto search:")

x = int(input())

mycur.execute("Select \* from emp where EMPID = {}".format(x))

a = mycur.fetchall()

if a == []:

print("THIS PERSON DOES NOT EXIST!")

else:

for y in a:

z = list(y)

print("empid:",z[0])

print("empname:",z[1])

print("empsalary:",z[2])

print("date:",z[3])

break

print("Would you like to continue?(y/n):")

x = input()

if x == "y":

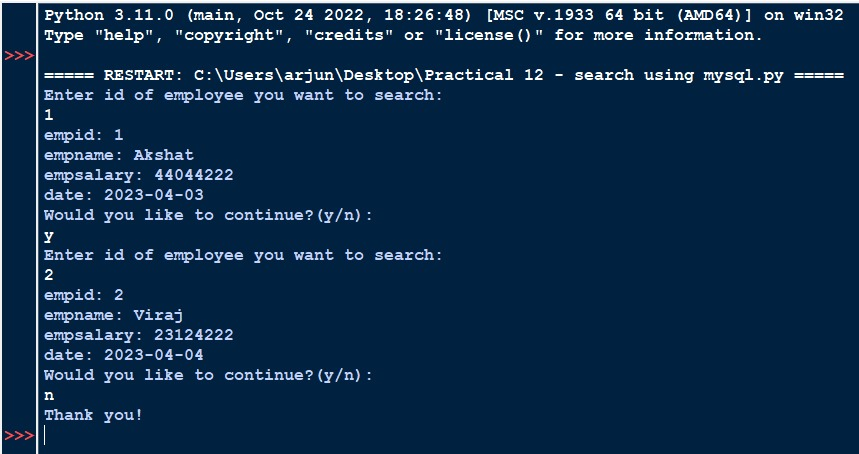
continue

elif x == "n":

print("Thank you!")

break

**OUTPUT:-**



**Q13. To write a Python Program to integrate MYSQL with Python to search an Employee using EMPID and update the Salary of an employee if present in already existing table EMP, if not display the appropriate message. .(Connection between Python and MySQL).**

**SOURCE CODE:-**

import mysql.connector

mycon = mysql.connector.connect(host="localhost",user="root",passwd="@ANIGAME0359")

cur = mycon.cursor()

#CREATING DATABASE & TABLE

cur.execute("create database if not exists emp;")

cur.execute("use emp;")

cur.execute("create table if not exists empinfo(empid int, empname varchar(30) not null, salary int not null, primary key (empid));")

#INSERTING VALUES

while True:

if int(input("Enter 1 if you wish to add data (else enter anything to stop): ")) == 1:

for x in range(int(input("Enter number of employees: "))):

empid = int(input("Enter employee id: "))

empname = input("Enter employee name: ")

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

cur.execute("insert into empinfo values({},'{}',{})".format(empid,empname,salary))

mycon.commit()

break

else:

break

#UPDATING VALUES

cur.execute("select \* from empinfo;")

a = cur.fetchall()

while True:

for x in a:

a = int(input("Enter the employee id of whom you wish to change the salary: "))

b = int(input("Enter new salary: "))

c = int(input("Enter 1 to continue changing salaries (else enter anything to stop): "))

cur.execute("update empinfo set salary = {} where empid = {}".format(b,a))

if c!=1:

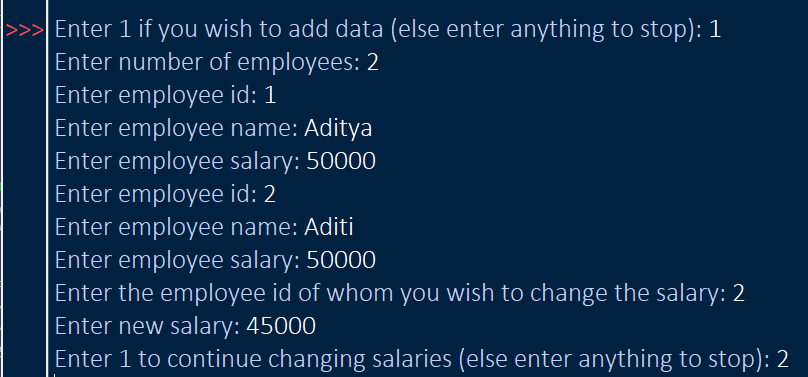
break

if c!=1:

break

mycon.close()

**OUTPUT:-**



**Q14.To write Python program to search any word in the given string.**

**SOURCE CODE:-**

#Program To search any word in given string.

snt = input("Enter your string: ")

n=0

src = input("Enter word to search: ")

a=""

cnt=0

snt = snt + " "

for x in snt:

if x==" ":

n+=1

for x in snt:

if x==" ":

cnt+=1

if a==src:

print("Word present in string.")

break

elif a!=src:

a=""

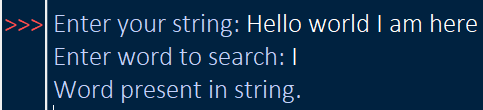
elif x!=" ":

a+=x

if cnt==n:

print("Word not in string.")

**OUTPUT:-**



**Q15. Create a CSV file by entering user-id and password, read and search the password for given user id.**

**SOURCE CODE:-**

import csv

def create():

f = open("File.csv","w")

writer = csv.writer(f)

writer.writerow(["User ID", "Password"])

while True:

print()

data = [input("Enter user ID: "),input("Enter password: ")]

print()

writer.writerow(data)

n = input("Do you want to enter more records? (y/n) : ")

print()

if n.lower()=="n":

break

f.close()

def search():

f = open("File.csv","r")

reader = csv.reader(f)

user = input("Enter user ID to be searched: ")

for x in reader:

next(reader)

if x[0]==user:

print("Password:",x[1])

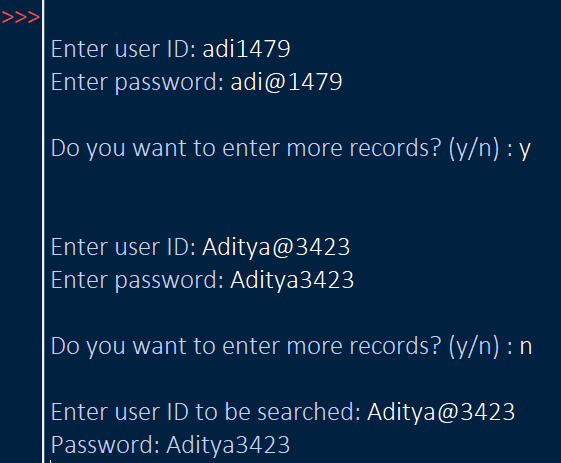
break

f.close()

create()

search()

**OUTPUT:-**



**Q16. Write a program to check if a given word is a Palindrome.**

**SOURCE CODE:-**

def reverse(s):

str = ""

for i in s:

str = i + str

return str

s = input("Enter string: ")

t = reverse(s)

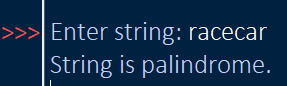
if t==s:

print("String is palindrome." )

else:

print("String isn't palindrome." )

OUTPUT:-



**Q17.Write a program to find if a number is Armstrong number.**

**SOURCE CODE:-**

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

temp = n

p = 0

while (n > 0):

rem = n % 10

p = (p) + (rem \* rem \* rem)

n = n // 10

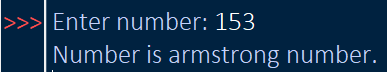
if temp == p:

print("Number is armstrong number.")

else:

print("Number is not an armstrong number.")

**OUTPUT:-**



**Q18.Write a program to find if the number is prime or not.**

**SOURCE CODE:-**

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

cnt=0

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

if n%x==0:

cnt+=1

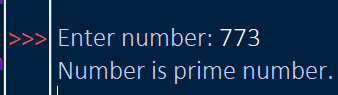
if cnt>2:

print("Number is not prime number.")

else:

print("Number is prime number.")

**OUTPUT:-**



**Q19.Write Python program to connect with database and delete the record of entered employee number**

**SOURCE CODE:-**

import mysql.connector as mysql

import sys

try:

y=1

mycon = mysql.connect(host='localhost',user='root',passwd='@ANIGAME0359')

cur = mycon.cursor()

a = 'create database if not exists office'

b = 'use office'

c = 'create table if not exists employeeinfo (empno int primary key, empname varchar(50) not null, empsal int not null)'

cur.execute(a)

cur.execute(b)

cur.execute(c)

ac = 0

for x in range(0,2):

if ac==0:

print("No records present, please enter records")

m=n=1

if ac==1:

print("Enter 1 to add new records, 2 to delete a record.")

n = int(input(""))

if n==1or m ==1:

m=0

while True:

print("Enter Employee Information:")

empno=int(input("Enter Employee Number: "))

empname=input("Enter Employee Name: ")

empsal=int(input("Enter Employee Salary: "))

d = 'insert into employeeinfo values({},"{}",{})'.format(empno,empname,empsal)

cur.execute(d)

mycon.commit()

ac+=1

n = input("Do you want to enter more records? (y/n) : ")

if n.lower()=="n":

break

elif n==2:

no = int(input("Enter Employee Number to delete records: "))

cur.execute("select \* from employeeinfo")

x = cur.fetchall()

for y in x:

z = y[0]

if z==no:

cur.execute("delete from employeeinfo where empno = {}".format(z))

print("Record Deleted.")

ab = int(input("Enter 1 to continue, 2 to terminate program: "))

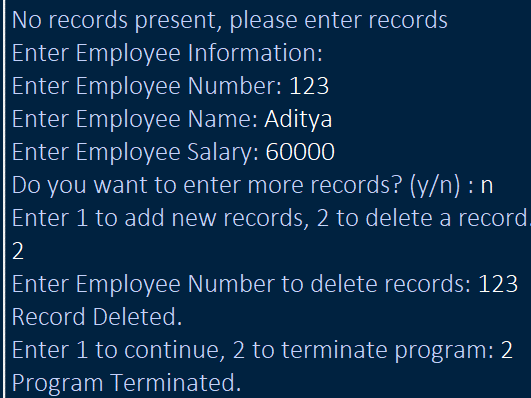
if ab==2:

sys.exit(0)

finally:

print("Program Terminated.")

**OUTPUT:-**



Q20.

* Create a Table CLUB (CoachId, CoachName, Age, Sports, DateofApp, Pay, Sex) and Insert Records.
* Write the SQL Queries for the following: -

To display the list of coach who is playing KARATE

To display the records having Pay between 500 to 1000.

· To display the names of coach whose name starts with ‘A’.

· To display the total salary paid to Coach Gender wise.

· To display all records alphabetically on name.

* Give the output of following SQL statements: -

· SELECT COUNT(DISTINCT SPORTS) FROM CLUB;

· SELECT MIN(AGE) FROM CLUB WHERE SEX = ‘M’;

· SELECT AVG(AGE) FROM CLUB GROUP BY SEX;

· SLEECT SUM(PAY) FROM CLUB WHERE DATEOFAPP > ’31-03-1998’