PROGRAM 1a

AIM: Write a python program to find factorial of a given number using recursion.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jun 10 08:17:19 2023
@author: it286
"""
def fact(n):
    if(n==1):
        return 1
    else:
        return n*fact(n-1)
while True:
    n=int(input("Enter a value"))
    print("Factorial of ",n,"is",fact(n))
    ch=input("Do you want another Y/N")
    if(ch=='Y' or ch=='y'):
        continue;
    else:
        break;
```

Output:

```
In [1]: runfile('Z:/II/Y21AIT479 PP/1c.py', wdir='Z:/II/Y21AIT479 PP')

Enter a value5
Sum of digits of given 5 is 5

Do you want another Y/Ny

Enter a value2
Sum of digits of given 2 is 2

Do you want another Y/Nn
```

PROGRAM 1b

AIM: Python program to print fibanocci series upto n terms using recursion.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jun 10 09:09:01 2023

@author: it286
"""

def fib(n):
    if(n<=1):
        return 1;
    else:
        return fib(n-1)+fib(n-2)
while True:
    n=int(input("enter no.of terms"))
    if(n==0):
        print("enter +ve numbers")
    else:
        for i in range(n):
            print(fib(i),end=" ")
    ch=input("Do you want another Y/N")
    if(ch=='Y' or ch=='y'):
        continue;
    else:
        break;
```

Output :

```
In [2]: runfile('Z:/II/Y21AIT479 PP/1.b.py', wdir='Z:/II/Y21AIT479 PP')

enter no.of terms5
1 1 2 3 5
Do you want another Y/Ny

enter no.of terms10
1 1 2 3 5 8 13 21 34 55
Do you want another Y/Nn
```

PROGRAM 1c

Aim : Write a python program to print sum of digits of given number using recursion.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jun 10 09:46:59 2023
@author: it286
"""
while True:
    def sumofdigits(n):
        if(n<=9):
            return n;
        else:
            rem=(n%10)
            return int(rem+sumofdigits(n/10))
    n=int(input("Enter a value"))
    print("Sum of digits of given {} is {}".format(n,sumofdigits(n)))
    ch=input("Do you want another Y/N")
    if(ch=='Y' or ch=='y'):
        continue;
    else:
        break;
```

Output:

```
In [5]: runfile('Z:/II/Y21AIT479 PP/1c.py', wdir='Z:/II/Y21AIT479 PP')

Enter a value56
Sum of digits of given 56 is 11

Do you want another Y/Ny

Enter a value893
Sum of digits of given 893 is 21

Do you want another Y/Nn
```

PROGRAM 2a

Aim : Write a python program to implement following using date time module.
Dates between two dates

Source code :

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jun 10 08:25:59 2023

@author: it286
"""

from datetime import date,timedelta,datetime
d1=input("Enter starting date(dd:mm:yyyy)")
d2=input("Enter ending date(dd:mm:yyyy)")
d1=datetime.strptime(d1,"%d:%m:%Y")
d2=datetime.strptime(d2,"%d:%m:%Y")
if d1>d2:
    d=d2
    d3=d1-d2
elif d1<d2:
    d=d1
    d3=d2-d1
```

```
else:
   d3=d2
d3=(d3.days)+1
for i in range(int(d3)):
   r=d+timedelta(days=i)
   print(r)
```

Output:

```
In [8]: runfile('Z:/II/Y21AIT479 PP/2.py', wdir='Z:/II/Y21AIT479 PP')

Enter starting date(dd:mm:yyyy)23:06:2023

Enter ending date(dd:mm:yyyy)30:06:2023
2023-06-23 00:00:00
2023-06-24 00:00:00
2023-06-25 00:00:00
2023-06-26 00:00:00
2023-06-27 00:00:00
2023-06-28 00:00:00
2023-06-29 00:00:00
2023-06-30 00:00:00
```

PROGRAM 2b

Aim: Write a python program to print 12 fixed dates from a specified date where the difference between two days will be 20.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jun 10 08:37:59 2023

@author: it286
"""


from datetime import datetime,timedelta
start_date=input("Enter the starting date(dd:mm:yyyy):")
d=datetime.strptime(start_date,"%d:%m:%Y")
for i in range(12):
   r=d+timedelta(days=20*i)
   result=r.strftime("%Y-%m-%d")
   print(result)
```

Output:

```
In [9]: runfile('Z:/II/Y21AIT479 PP/2b.py', wdir='Z:/II/Y21AIT479 PP')

Enter the starting date(dd:mm:yyyy):30:01:2023
2023-01-30
2023-02-19
2023-03-11
2023-03-31
2023-04-20
2023-05-10
2023-05-30
2023-06-19
2023-07-09
2023-07-29
2023-08-18
2023-09-07
```

PROGRAM 2c

Aim: Python program to find age by giving date of birth

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jun 10 08:46:59 2023

@author: it286
"""



while True:
    from datetime import datetime
    def calculate_age(birth_date):
        current_date=datetime.today().date()
        age=current_date.year-birth_date.year
        if current_date<birth_date.replace(year=current_date.year):
            age-=1
        return age
    def get():
      s=input("Enter your DOB(dd:mm:yyyy):")
      birthdate=datetime.strptime(s,"%d:%m:%Y").date()
```

```
    return birthdate
birthdate=get()
age=calculate_age(birthdate)
print("Your age is :",age)
ch=input("Do you want to continue Y|N")
if ch=='N' or ch=='n':
    break
```

Output:

```
In [10]: runfile('Z:/II/Y21AIT479 PP/2c.py', wdir='Z:/II/Y21AIT479 PP')

Enter your DOB(dd:mm:yyyy):29:09:2004
Your age is : 18

Do you want to continue Y|Ny

Enter your DOB(dd:mm:yyyy):22:08:2003
Your age is : 19

Do you want to continue Y|Nn
```

PROGRAM 3a

Aim : Python program to read a text file named “bec.txt” and display the following. The word start with t and a or T and A.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri Jun 30 15:24:30 2023

@author: it286
"""



a=open("bec.txt","r")
s=a.read()
words=s.split()
for i in words:
   if(i[0]=="t" or i[0]=="T" or i[0]=="A" or i[0]=="a" ):
      print(i)
a.close()
```

Output:

```
In [13]: runfile('Z:/II/Y21AIT479 PP/3a.py', wdir='Z:/II/Y21AIT479 PP')
a
and
the
the
temperatur
too
awkward
Accept
Tool
```

PROGRAM 3b

Aim: Python program to read a text file named “bec.txt” and display the following.
Even length of words in a given file.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri Jun 30 15:42:16 2023

@author: it286
"""
a=open("bec.txt","r")
s=a.read()
words=s.split()
for i in words:
   if len(i)%2==0:
      print(i)
```

Output:

```
In [26]: runfile('Z:/II/Y21AIT479 PP/3b.py', wdir='Z:/II/Y21AIT479 PP')
is
of
institutions
by
Society.
in
It
is
in
temperatur
is
cool
in
Accept
Tool
```

PROGRAM 3c

Aim : A binary file “Book.dat” has structure [Book_ No,Book_Name,Author,price].
1.Write a user defined function createFile() to input data for a record and add to Book.dat.
2.Write a function countRec(Author) in Python which accepts the Author name as parameter and count no.of books by the given Author are stored in the binary file “Book.dat”
solution.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri  Jun 30 18:00:52 2023

@author:it286
"""


import pickle
while True:
   def createFile():
      file=open("book.dat","ab")
```

```
    BookNo=int(input("enter book number:"))
    Book_Name=input("enter book name:")
    Author=input("enter author:")
    price=int(input("enter price:"))
    record=[BookNo,Book_Name,Author,price]
    pickle.dump(record,file)
    file.close()
  def countRec(Author):
    file=open("book.dat","rb")
    cnt=0
    try:
      while True:
        record=pickle.load(file)
        if record[2]==Author:
          cnt+=1
    except EOFError:
      pass
    return cnt
    file.close()
  def testprogram():
    while True:
      createFile()
      ch=input("add more records(Y|N)?")
      if ch=='N' or ch=='n':
        break
    Author=input("enter author name to search:")
    n=countRec(Author)
    print("No.of books are",n)
  testprogram()
  c=input("do you want to continue Y|N")
  if c=='n' or c=='N':
    break
```

Output:

```
In [15]: runfile('C:/Users/bheemeswararedd/OneDrive/Desktop/lokesh/untitled1.py', wdir='C:/Users/
bheemeswararedd/OneDrive/Desktop/lokesh')
enter book number:11
enter book name:Networks
enter author:Lokesh
enter price:235
add more records(Y|N)?y
enter book number:12
enter book name:Data Structures
enter author:Thomas
enter price:565
add more records(Y|N)?Y
enter book number:13
enter book name:DAA
enter author:sai p
enter price:986
add more records(Y|N)?n
enter author name to search:Lokesh
No.of books are 4
do you want to continue Y|Nn

In [16]:
```

PROGRAM 4a

Aim : Pyhton program to implement the following using Regular Expressions module.
To count the no.of words end with s or S and display the words in a given string/ paragraph

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri Jun 30 19:01:42 2023

@author: IT286
"""
```

```
while True:
    import re
    n=input("Enter a list of strings separated by comma:")
    l=n.split(",")
    m=[]
    cnt=0
    for i in l:
      if re.search("s$",i) or re.search("S$",i):
          m.append(i)
          cnt+=1
    print("count=",cnt)
    print(m)
    ch=input("Do you want to continue Y|N")
    if ch=='y' or ch=='Y':
       continue
    else:
       break
```

Output:

```
In [9]: runfile('Z:/IT/Y21AIT479/4a.py', wdir='Z:/IT/Y21AIT479')
Enter a list of strings separated by comma:Books,Strings,Lokesh
count= 2
['Books', 'Strings']
Do you want to continue Y|Nn

In [10]:
```

PROGRAM 4b

Aim: Write a python program to find all integers and floating–point numbers in agiven paragraph then print sum of those.

Source Code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri Jun 30 19:36:42 2023

@author: IT286
"""
```

```
import re
str="Cinema ticket is 200 and Gst is 24.5"
a=re.findall("[0-9]", str)
print(a)
sum=0
for i in a:
   sum +=int(i)
print("Sum of digits is :",sum)
```

Output :

```
In [12]: runfile('Z:/IT/Y21AIT479/4b.py', wdir='Z:/IT/Y21AIT479')
['2', '0', '0', '2', '4', '5']
Sum of digits is : 13

In [13]:
```

PROGRAM 4c

Aim : Write a python program to count the numbers of words ends with ‘s’ or ’S’ and display the words in a given string using regular expression module.

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri Jun 30 20:15:42 2023

@author: IT286
"""
import re
stri="""To build centreS of excellence impact high Quality education and install high
```

```
standars of ethics and professionalism through efforts of students"""
a=re.findall("[a-z,A-Z]+[s][ |,|.|:]",stri)
print(a)
```

Output:

```
In [14]: runfile('Z:/IT/Y21AIT479/untitled4.py', wdir='Z:/IT/Y21AIT479')
['standars ', 'ethics ', 'efforts ']
```

PROGRAM 5a

Aim : write a python program to demonstrate the bank management system with following modules using opp concept

I. Create account
II. Withdraw money
III. Deposit money
IV. Check balance

Source code:

```
# -*- coding: utf-8 -*-
"""
```

```
Created on Fri Jun 30 20:38:07 2023

@author: IT286
"""

class bank:
    def __init__(self):
        self.balance=0
        self.account=0
    def create(self):
        self.balance=int(input("Enter deposit amount"))
        self.account=int(input("Enter Account number"))
    def deposit(self):
        ac=int(input("Enter a account number"))
        d=int(input("Enter how much you want to deposit "))
        for i in l:
            if i.account==ac:
                i.balance+=d
                print("Your updated balance is ",i.balance)
    def withdrawal(self):
        ac=int(input("Enter a account number "))
        w=int(input("Enter how much you want to withdrawal"))
        for i in l:
            if i.account==ac:
                if w <= i.balance:
                    i.balance-=w
                    print("balance",i.balance)
                else:
                    print("insufficient balance")
    def display(self):
        print("Account",self.account)
        print("Blance",self.balance)
    def search(self):
        a=int(input("Enter Account number"))
        for i in l:
            if i.account==a:
                print("balance",i.balance)
l=[]
while True:
    ob=bank()
    print("1.create\n2.Deposit\n3.Withdrawal\n4.Display\n5.Search")
```

```
ch=int(input("Enter your choice "))
if ch==1:
   ob.create()
   l.append(ob)
elif ch==2:
   ob.deposit()
elif ch==3:
   ob.withdrawal()
elif ch==4:
   for i in l:
      i.display()
elif ch==5:
   ob.search()
else:
   print("\nInvalid choice")
c=input("Do you want to continue")
if c=='n' or c=='N':
   break
```

Output:

```
In [20]: runfile('Z:/IT/Y21AIT479/5a.py', wdir='Z:/IT/Y21AIT479')
1.create
2.Deposit
3.Withdrawal
4.Display
5.Search
Enter your choice 1
Enter deposit amount100
Enter Account number111
Do you want to continuey
1.create
2.Deposit
3.Withdrawal
4.Display
5.Search
Enter your choice 1
Enter deposit amount200
Enter Account number112
Do you want to continuey
1.create
2.Deposit
3.Withdrawal
4.Display
5.Search
Enter your choice 1
Enter deposit amount300
Enter Account number113
Do you want to continuey
1.create
2.Deposit
3.Withdrawal
4.Display
```

```
4.Display
5.Search
Enter your choice 4
Account 111
Blance 100
Account 112
Blance 200
Account 113
Blance 300
Do you want to continuey
1.create
2.Deposit
3.Withdrawal
4.Display
5.Search
Enter your choice 2
Enter a account number111
Enter how much you want to deposit 500
Your updated balance is  600
Do you want to continuey
1.create
2.Deposit
3.Withdrawal
4.Display
5.Search
Enter your choice 3
Enter a account number 112
Enter how much you want to withdrawal50
balance 150
Do you want to continuey
1.create
2.Deposit
```

```
3.Withdrawal
4.Display
5.Search
Enter your choice 4
Account 111
Blance 600
Account 112
Blance 150
Account 113
Blance 300
Do you want to continuey
1.create
2.Deposit
3.Withdrawal
4.Display
5.Search
Enter your choice 5
Enter Account number113
balance 300
Do you want to continuen

In [21]:
```

PROGRAM 5b

Aim : Write a program to demonstrate library management system with following modules using opp concept

I. Add book details
II. View book details
III. Delete book details
IV. Search book details

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Fri Jun 30 21:49:28 2023

@author: it286
"""
class library:
    def __init__(self):
        self.title=""
        self.author=""
        self.publisher=""
    def read(self):
        self.title=input("Enter title name : ")
        self.author=input("Enter author name : ")
        self.publisher=input("Enter publisher name : ")
    def delete(self):
        b=input("Enter author name")
        for i in mybook:
            if i.author==b:
                mybook.remove(i)
                print("Deleted successfully")
    def display(self):
        print("\ntitle :",self.title)
        print("author :",self.author)
        print("publisher :",self.publisher)
    def search(self):
        a=input("Enter Author name")
        for i in mybook:
            if i.author==a:
                print("title : ",i.title)
```

```
            print("publisher : ",i.publisher)
mybook=[]
while True:
  print("1.Add new book\n2.Display books\n3.Search\n4.delete")
  ch=int(input("Enter your choice "))
  book=library()
  if ch==1:
    book.read()
    mybook.append(book)
  elif ch==2:
    for i in mybook:
      i.display()
  elif ch==3:
    book.search()
  elif ch==4:
    book.delete()
  else:
    print("\nInvalid choice")
  c=input("Do you want to continue")
  if c=='n' or c=='N':
    break
```

Output:

```
In [25]: runfile('Z:/IT/Y21AIT479/5b.py', wdir='Z:/IT/Y21AIT479')
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 1
Enter title name : Data Structures
Enter author name : James
Enter publisher name : Arena
Do you want to continuey
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 1
Enter title name : DAA
Enter author name : Thomas
Enter publisher name : arka
Do you want to continuey
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 1
Enter title name : MPMC
Enter author name : Peter
Enter publisher name : Bliss
Do you want to continuey
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 2
```

```
title : Data Structures
author : James
publisher : Arena

title : DAA
author : Thomas
publisher : arka

title : MPMC
author : Peter
publisher : Bliss
Do you want to continuey
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 3
Enter Author namePeter
title :  MPMC
publisher :  Bliss
Do you want to continuey
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 4
Enter author nameThomas
Deleted successfully
Do you want to continuey
1.Add new book
2.Display books
3.Search
4.delete
Enter your choice 2

title : Data Structures
author : James
publisher : Arena

title : MPMC
author : Peter
publisher : Bliss
Do you want to continuen

In [26]:
```

PROGRAM 5c

Aim : Write a python program to build a simple student management with following operations

I. Insert student records
II. View student details
III. Search student record
IV. Delete student deatails
V. Update student record

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jul  1 07:47:03 2023

@author: it286
"""

class student:
    def __init__(self):
        self.name=""
        self.regdno=""
        self.rollno=""
        self.s1=0
        self.s2=0
        self.s3=0
        self.s4=0
        self.s5=0
        self.percentge=((self.s1+self.s2+self.s3+self.s4+self.s5)/500)*100
    def create(self):
        self.name=input("\nEnter student name")
        self.regdno=int(input("Enter student regd no"))
        self.rollno=int(input("Enter student roll no"))
        self.s1=int(input("Subject 1 marks"))
        self.s2=int(input("Subject 2 marks"))
        self.s3=int(input("Subject 3 marks"))
        self.s4=int(input("Subject 4 marks"))
        self.s5=int(input("Subject 5 marks"))
        self.percentage=((self.s1+self.s2+self.s3+self.s4+self.s5)/500)*100
    def display(self):
        print("\n\nName : ",self.name,"\nRegdno : ",self.regdno,"\nRollno : ",self.rollno,end="
")
```

```
        print("\nPercentage : ",self.percentage)
    def search(self,n):
        for i in l:
            if i.regdno==n:
                print("\n\nName : ",i.name,"\nRegdno : ",i.regdno,end=" ")
                print("\nPercentage : ",i.percentage)
    def delete(self,n):
        cnt=0
        for i in l:
            if i.regdno==n:
                del l[cnt]
            cnt+=1
    def update(self,n):
        for i in l:
            if i.regdno==n:
                while True:

print("\n1.Name\n2.Rollno\n3.s1mark\n4.s2mark\n5.s3mark\n6.s4mark\n7.s5mark.\n")
                    ch=int(input("Enter your choice 1-7"))
                    if ch==1:
                        n1=input("Enter update name")
                        i.name=n1
                    elif ch==2:
                        n2=int(input("Enter update rollno:"))
                        i.rollno=n2
                    elif ch==3:
                        n3=int(input("Enter update s1 mark  :"))
                        i.s1=n3
                    elif ch==4:
                         n4=int(input("Enter update s2 mark  :"))
                         i.s2=n4
                    elif ch==5:
                         n5=int(input("Enter update s3 mark  :"))
                         i.s3=n5
                    elif ch==6:
                         n6=int(input("Enter update s4 mark  :"))
                         i.s4=n6
                    elif ch==7:
                          n7=int(input("Enter update s5 mark  :"))
                          i.s5=n7
                    else:
```

```
                print("Invalid")
            i.percentage=((i.s1+i.s2+i.s3+i.s4+i.s5)/500)*100
            choice=input("Do you want to update any other")
            if choice=='y' or choice=='Y':
                continue
            else:
                break
l=[]
while True:
    ob=student()
    print("1.Create\n2.Display\n3.Search\n4.Delete\n5.Update")
    ch=int(input("Enter your choice : "))
    if ch==1:
        ob.create()
        l.append(ob)
    elif ch==2:
        for i in l:
            i.display()
    elif ch==3:
        n=int(input("Enter regdNo"))
        ob.search(n)
    elif ch==4:
        n=int(input("Enter regdNo"))
        ob.delete(n)
    elif ch==5:
        n=int(input("Enter regdNo"))
        ob.update(n)
    else:
        print("Invalid")
    choice=input('Do you want to continue')
    if choice=='y' or choice=='Y':
        continue
    else:
        break
```

Output:

```
In [2]: runfile('Z:/II/Y21AIT479 PP/labprograms/6.py', wdir='Z:/II/Y21AIT479 PP/labprograms')
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 1


Enter student nameLokesh

Enter student regd no479

Enter student roll no86

Subject 1 marks99

Subject 2 marks99

Subject 3 marks99

Subject 4 marks99

Subject 5 marks99

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 1


Enter student nameSrinivas

Enter student regd no480

Enter student roll no87

Subject 1 marks66

Subject 2 marks66

Subject 3 marks66

Subject 4 marks66

Subject 5 marks23

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 1


Enter student nameBhaskar

Enter student regd no481

Enter student roll no87
```

```
Enter student roll no87

Subject 1 marks56

Subject 2 marks23

Subject 3 marks55

Subject 4 marks99

Subject 5 marks84

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 2


Name :  Lokesh
Regdno :  479
Rollno :  86
Percentage :  99.0


Name :  Srinivas
Regdno :  480
Rollno :  87
Percentage :  57.4
```

```
Name :  Bhaskar
Regdno :  481
Rollno :  87
Percentage :  63.4

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 3

Enter regdNo479


Name :  Lokesh
Regdno :  479
Percentage :  99.0

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 4

Enter regdNo479

Do you want to continuey
1.Create
2.Display
3.Search
```

```
4.Delete
5.Update

Enter your choice : 2


Name :  Srinivas
Regdno :  480
Rollno :  87
Percentage :  57.4


Name :  Bhaskar
Regdno :  481
Rollno :  87
Percentage :  63.4

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 5

Enter regdNo481

1.Name
2.Rollno
3.s1mark
4.s2mark
5.s3mark
6.s4mark
7.s5mark.
```

```
Enter your choice 1-72

Enter update rollno:11

Do you want to update any othery

1.Name
2.Rollno
3.s1mark
4.s2mark
5.s3mark
6.s4mark
7.s5mark.


Enter your choice 1-75

Enter update s3 mark  :99

Do you want to update any othern

Do you want to continuey
1.Create
2.Display
3.Search
4.Delete
5.Update

Enter your choice : 2


Name :  Srinivas
Regdno :  480
Rollno :  87
Percentage :  57.4
```

```
Name :  Srinivas
Regdno :  480
Rollno :  87
Percentage :  57.4


Name :  Sai
Regdno :  481
Rollno :  11
Percentage :  72.2

Do you want to continuen

In [3]:
```

Program 06a

Aim: Write a python program to implement stack data structure using list with following operation .

I. Push
II. Pop
III. Display

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jul  1 09:22:14 2023

@author: it286
"""

class stack :
    def __init__(self):
        self.ele=0
    def push(self):
        self.ele=int(input("Enter element to insert"))
        list.append(self.ele)
    def pop(self):
        if len(list)==0:
            print("stack is empty")
        else:
            print("Deleted element is ",list.pop())
    def display(self):
        if len(list)==0:
            print("stack is empty")
        else:
            n=len(list)
            for i in range(n-1,-1,-1):
                print(list[i])

list=[]
```

```
ob=stack()
while True:
    print("\n1.Push\n2.pop\n3.display")
    ch=int(input("Enter your choice"))
    if ch==1:
        ob.push()
    elif ch==2:
        ob.pop()
    elif ch==3:
        ob.display()
    else:
        print("Invalid")
    choice=input("Do you want to update any other")
    if choice=='y' or choice=='Y':
        continue
    else:
        break
```

Output:

```
In [7]: runfile('Z:/II/Y21AIT479 PP/labprograms/6b.py', wdir='Z:/II/Y21AIT479 PP/labprograms')

1.Push
2.pop
3.display

Enter your choice1

Enter element to insert1

Do you want to update any othery

1.Push
2.pop
3.display

Enter your choice1

Enter element to insert2

Do you want to update any othery

1.Push
2.pop
3.display

Enter your choice1

Enter element to insert3

Do you want to update any othery
```

```
1.Push
2.pop
3.display

Enter your choice3
3
2
1

Do you want to update any othery

1.Push
2.pop
3.display

Enter your choice2
Deleted element is  3

Do you want to update any othery

1.Push
2.pop
3.display

Enter your choice3
2
1

Do you want to update any other
```

Program 06b

Aim: Write a python program to implement queue data structure using list with following operations

I. Enqueue
II. Dequeue
III. Display

Source code:

```
# -*- coding: utf-8 -*-
"""
Created on Sat Jul  8 08:35:39 2023

@author: it286
"""

class queue:
    def __init__(self):
        self.ele=0
    def enqueue(self):
        self.ele=int(input("Enter element to insert"))
        list.append(self.ele)
    def dequeue(self):
        if len(list)==0:
            print("stack is empty")
        else:
            print("Deleted element is ",list.pop(0))
    def display(self):
        if len(list)==0:
            print("stack is empty")
        else:
            n=len(list)
            for i in range(n):
                print(list[i]," ",end="")

list=[]
ob=queue()
```

```
while True:
    print("\n1.Enqueue\n2.Dequeue\n3.display")
    ch=int(input("Enter your choice"))
    if ch==1:
        ob.enqueue()
    elif ch==2:
        ob.dequeue()
    elif ch==3:
        ob.display()
    else:
        print("Invalid")
    choice=input("Do you want to update any other")
    if choice=='y' or choice=='Y':
        continue
    else:
        break
```

Output:

```
In [16]: runfile('Z:/II/Y21AIT479 PP/labprograms/6b.py', wdir='Z:/II/Y21AIT479 PP/labprograms')

1.Enqueue
2.Dequeue
3.display

Enter your choice1

Enter element to insert1

Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice1

Enter element to insert2

Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice1

Enter element to insert3

Do you want to update any othery

1.Enqueue
2.Dequeue
```

```
3.display

Enter your choice3
1  2  3
Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice2
Deleted element is  1

Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice3
2  3
Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice2
Deleted element is  2

Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice2
Deleted element is  3

Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice3
stack is empty

Do you want to update any othery

1.Enqueue
2.Dequeue
3.display

Enter your choice2
stack is empty

Do you want to update any othern

In [17]:
```