1.

```
class Complex:
   count = 0
   def __init__(self,real,img):
      self.real=real
      self.img=img
      Complex.count += 1
   def addComplex(self,ob2):
      return Complex(self.real + ob2.real,self.img + ob2.img)
   def subComplex(self,ob2):
      return Complex(self.real - ob2.real,self.img - ob2.img)
   def mulComplex(self,ob2):
      return Complex((self.real*ob2.real)-(self.img*ob2.img),(self.real*ob2.img)-(self.img*ob2.real))
   def display(self):
      if self.img<0:
         print(self.real,"-",abs(self.img),end="i")
      else:
         print(self.real,"+",self.img,end="i")
   def __del__(self):
      print("Destructor called, object deleted")


#Main function starts...


real = int(input("Enter real value for 1st complex number: "))
img = int(input("Enter imaginary value for 1st complex number: "))
ob1 = Complex(real,img)
real = int(input("Enter real value for 2nd complex number: "))
img = int(input("Enter imaginary value for 2nd complex number: "))
ob2 = Complex(real,img)
add = ob1.addComplex(ob2)
sub = ob1.subComplex(ob2)
mul = ob1.mulComplex(ob2)
print("1st Complex No. : ",end="")
ob1.display()
print("\n2nd Complex No. : ",end="")
ob2.display()
print("\nAddition : ",end="")
add.display()
print("\nSubstracion : ",end="")
sub.display()
print("\nMultiplication : ",end="")
mul.display()
print("\nNo. of objects created = ",Complex.count)
```

2.

```
#Shows the attributes of stack

class Stack:
   def __init__(self):
      self.stackarr=[]
   def push(self,item):
      self.stackarr.append(item)
   def pop(self):
      item = self.stackarr[-1]
      del self.stackarr[-1]
      return item
   def display(self):
      for i in range(len(self.stackarr)-1,-1,-1):
         print(self.stackarr[i])
def getChoice():
   print("Menu\n 1.PUSH\n 2.POP\n 3.DISPLAY\n 4.EXIT")
   choice = int(input("Enter Your Choice: "))
   return choice
# Main function starts here....
print("Program Starts")
choice = getChoice()
ob = Stack()

while choice!=4:
   if choice==1:
      item = int(input("Enter value to push"))
      ob.push(item)
   elif choice==2:
      if(len(ob.stackarr)!=0):
         item = ob.pop()
         print("Popped item is ",item)
      else:
         print("Stack Underflow")
   elif choice==3:
      if(len(ob.stackarr)!=0):
         ob.display()
      else:
         print("Stack Underflow")
   else:
      print("Invalid Choice, please choose again\n")
   choice = getChoice()
```

3.

```
#Shows the attributes of que

class Stack:
    count = 0
    def __init__(self):
        self.stackarr=[]
        Stack.count=0
    def insert(self,item):
        self.stackarr.append(item)
    def delete(self):
        item = self.stackarr[Stack.count]
        del self.stackarr[Stack.count]
        Stack.count += 1
        return item
    def display(self):
        for i in range(len(self.stackarr)):
            print(self.stackarr[i],end=" ")

def getChoice():
    print("\nMenu\n 1.INSERT\n 2.DELETE\n 3.DISPLAY\n 4.EXIT")
    choice = int(input("Enter Your Choice: "))
    return choice
# Main function starts here....
print("Program Starts")
choice = getChoice()
ob = Stack()

while choice!=4:
    if choice==1:
        item = int(input("Enter value to insert"))
        ob.insert(item)
    elif choice==2:
        if(len(ob.stackarr)!=0):
            item = ob.delete()
            print("Deleted item is ",item)
        else:
            print("Que Underflow")
    elif choice==3:
        if(len(ob.stackarr)!=0):
            ob.display()
        else:
            print("Stack Underflow")
    else:
        print("Invalid Choice, please choose again\n")
    choice = getChoice()
```