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SE-4-D

EXPERIMENT N0-7

WRITE A PYTHON PROGRAM TO BUILD PAKAGE AND MODULE FOR STACK AND QUEUE

SOURCE CODE:-

Main.py:

```
import college_prac.stack
import college_prac.queue


q=college_prac.queue.Queue()
s=college_prac.stack.Stack()
if __name__ == "__main__":
    while (True):
        print("****************** MENU ******************")
        print("1: STACK")
        print("2: QUEUE")
        x=int(input("ENTER YOUR CHOICE"))
        if(x==1):
            while (True):
                print("****************** STACK ******************")
                print("1: PUSH")
                print("2: POP")
                print("3: PEEK")
                print("4: DISPLAY")
                op = int(input("ENTER YOUR CHOICE:"))
                if op == 1:
                    s.push()
```

```
        elif op == 2:
          s.pop()
        elif op == 3:
           s.peek()
        elif op == 4:
           s.print()
        else:
           print("wrong input")
        print("Press q to quit and c to continue:", end=" ")
        ch = ""
        while (ch != "c" and ch != "q"):
           ch = input()
           if ch == "q":
              exit()

           elif ch == "c":
              continue
elif(x==2):
    while (True):
        print("******************** QUEUE ********************")
        print("1: ENQUEUE")
        print("2: DEQUEUE")
        print("3: PEEK")
        print("4: DISPLAY")
        op = int(input("ENTER YOUR CHOICE:"))
        if op == 1:
           q.enqueue()
```

```
        elif op == 2:
            q.dequeue()
        elif op == 3:
            q.peek()
        elif op == 4:
            q.print()
        else:
            print("wrong input")
        print("Press q to quit and c to continue:", end=" ")
        ch = ""
        while (ch != "c" and ch != "q"):
            ch = input()
            if ch == "q":
                exit()
```

stack.py:

```
class Stack:
    stack=[]
    def push(self):
        s1=int(input("entre the number to push:"))
        self.stack.append(s1)

    def pop(self):
        if(self.isempty()):
            print("stack is empty")
        else:
            s2=self.stack.pop()
            print(f"{s2} is poped")
```

```
def peek(self):
    if (self.isempty()):
        print("stack is empty")
    else:
        s3=self.stack[-1]
        print(f"{s3} is peek element")

def isempty(self):
    if self.stack == []:
        return True
    else:
        return False

def print(self):
    if (self.isempty()):
        print("stack is empty")
    else:
        print("element of stack are:")
        for i in self.stack:
            print(i)
```

queue.py:

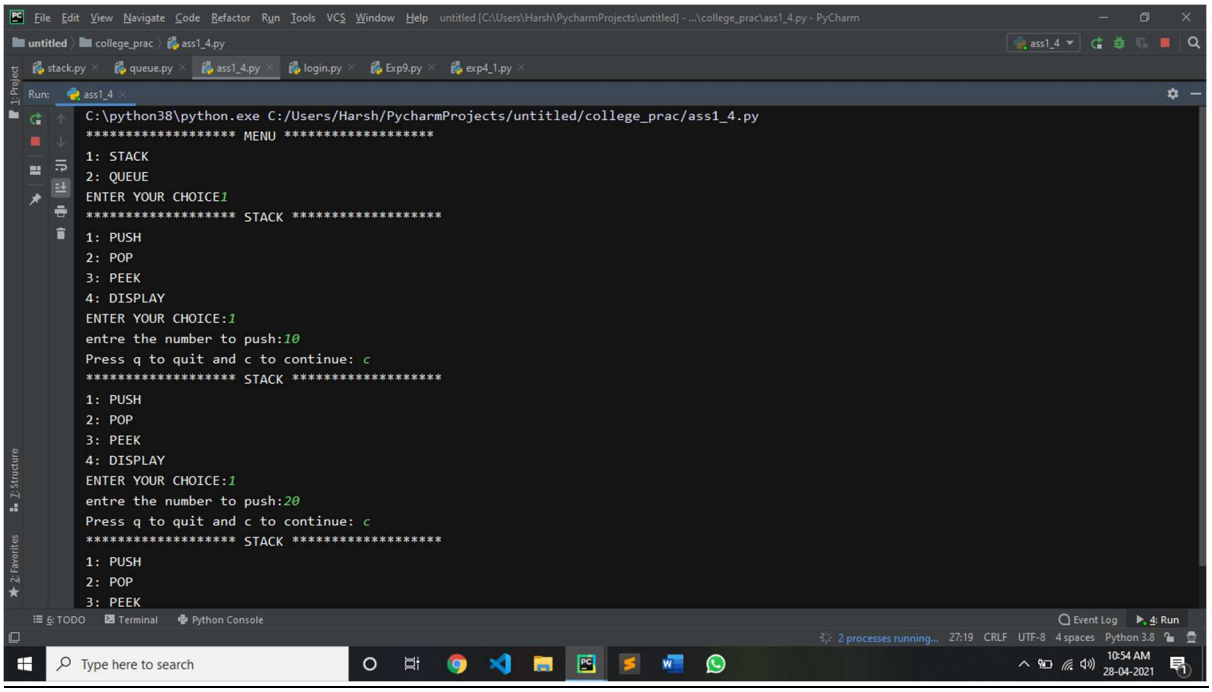
```
class Queue:
    q=[]
    def enqueue(self):
        s1=int(input("entre the number to push:"))
        self.q.append(s1)

    def dequeue(self):
        if(self.isempty()):
            print("queue is empty")
        else:
            s2=self.q.pop(0)
            print(f"{s2} is dequeued")

    def peek(self):
        if (self.isempty()):
            print("queue is empty")
        else:
            s3=self.q[0]
            print(f"{s3} is peek element")

    def isempty(self):
        if self.q == []:
            return True
        else:
            return False
```

```
def print(self):
    if (self.isempty()):
        print("queue is empty")
    else:
        print("element of queue are:")
        for i in self.q:
            print(i)
```

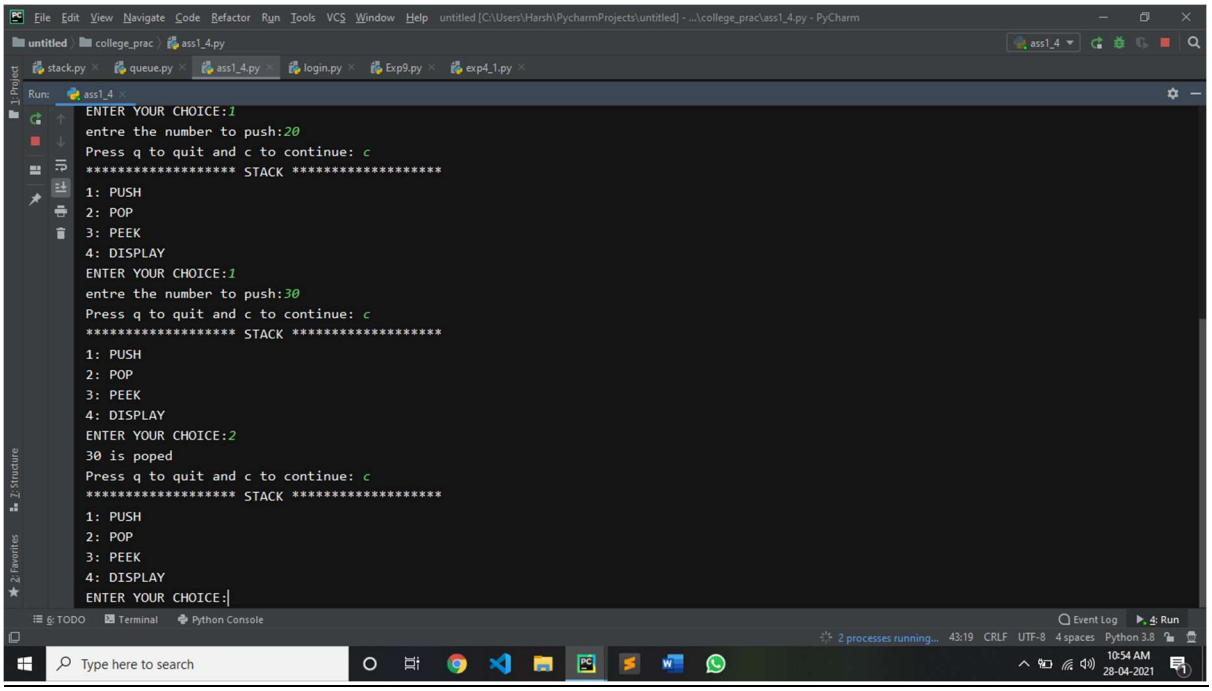
OUTPUT:

STACK:

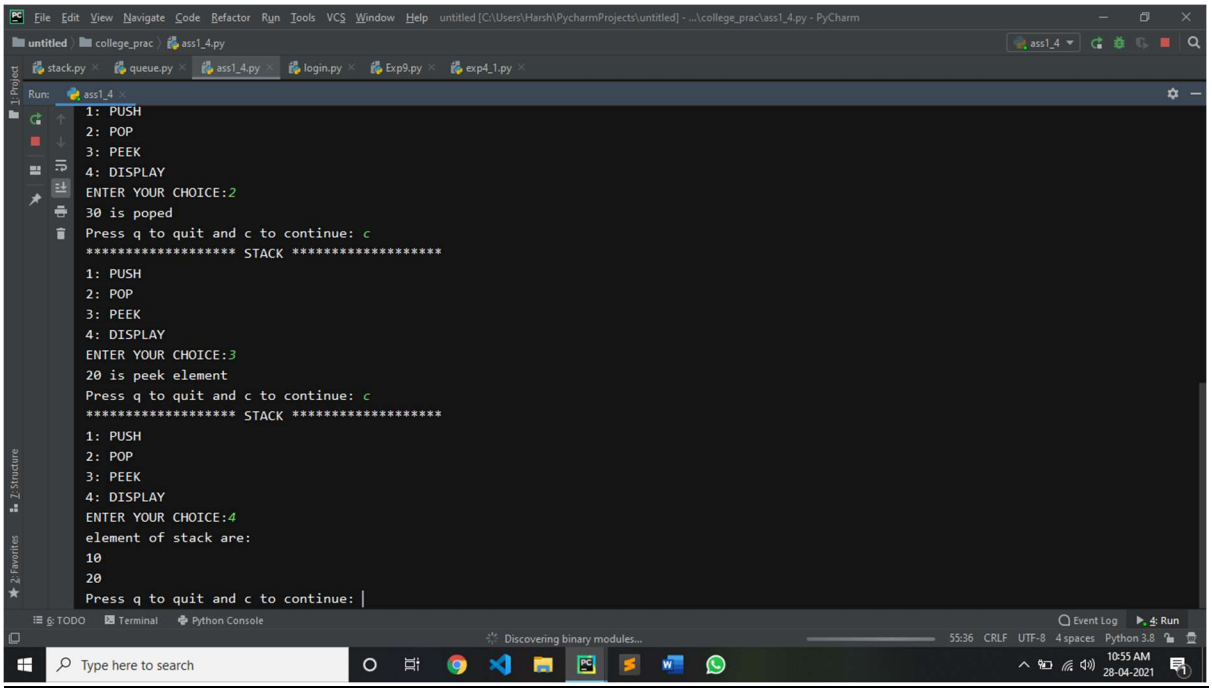
PUSH:



POP:

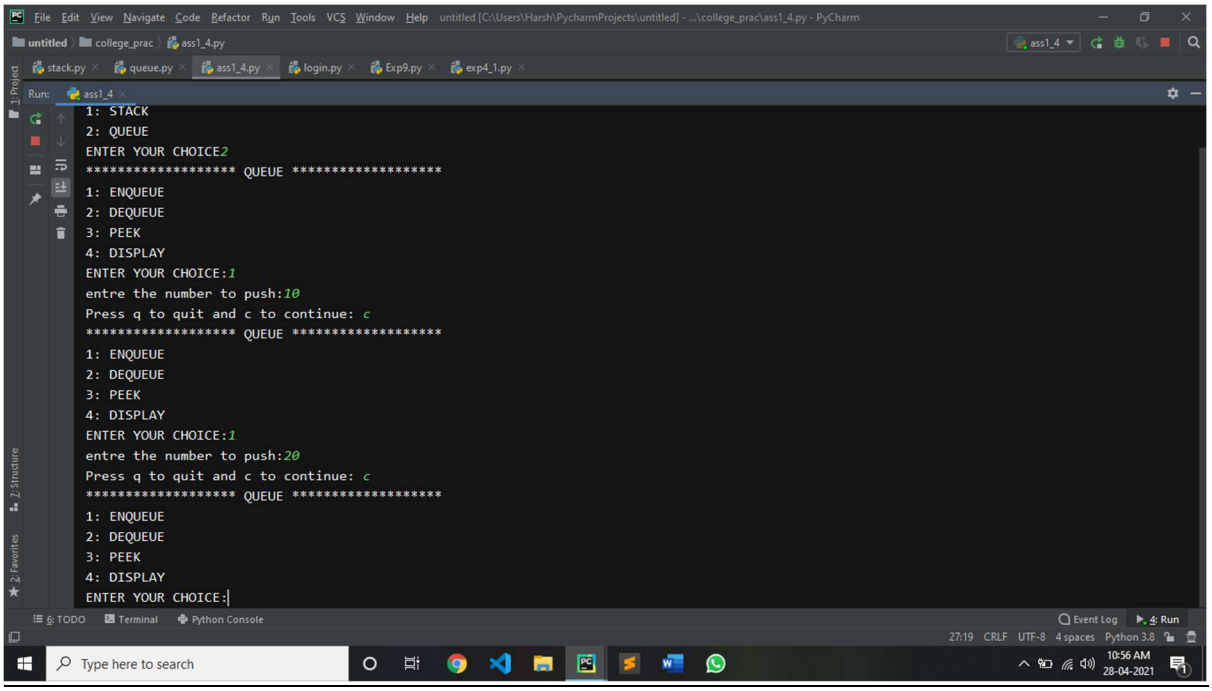


PEEK AND DISPLAY:

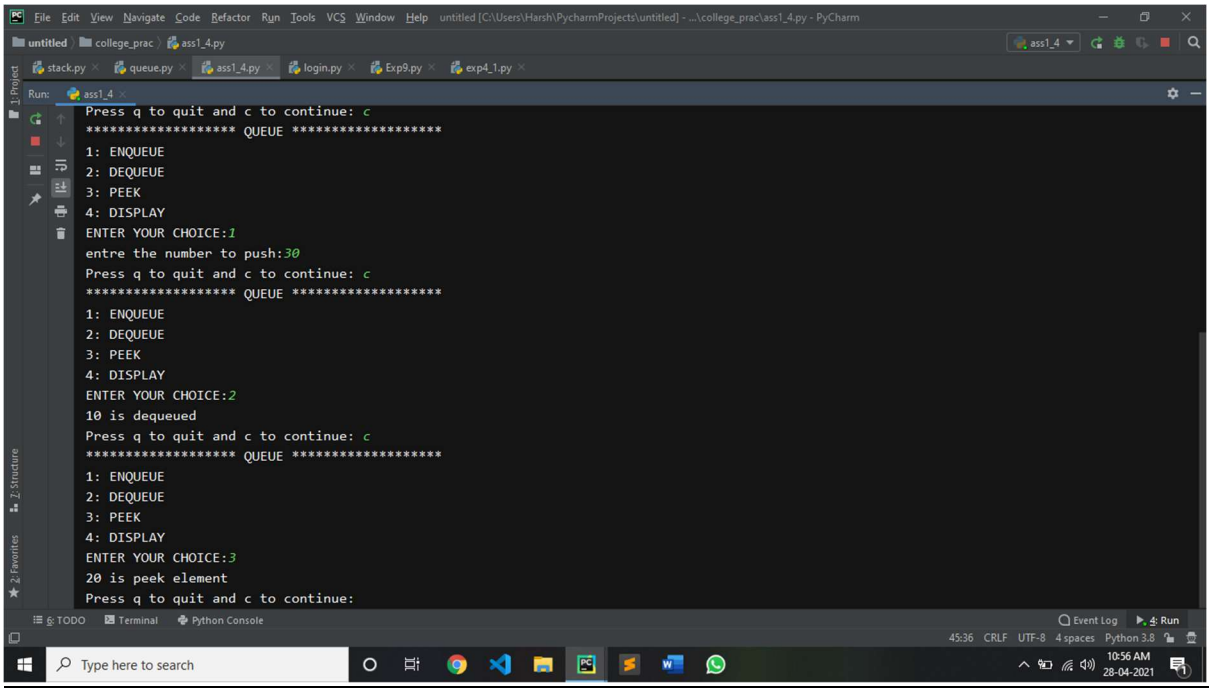


QUEUE:

ENQUEUE:



DEQUEUE:



PEEK AND DISPLAY: