Exercise:4.1

class Queue:

def \_\_init\_\_(self):

self.queue=[]

def is\_empty(self):

return len(self.queue)==0

def enqueue(self,item):

self.queue.append(item)

def dequeue(self):

if self.is\_empty():

raise IndexError("Queue is empty")

return self.queue.pop(0)

def peek(self):

if self.is\_empty():

raise IndexError("Queue is empty")

return self.queue[0]

def size(self):

return len(self.queue)

q=Queue()

q.enqueue(10)

q.enqueue(20)

q.enqueue(30)

print("Queue after enqueuing element:",q.queue)

print("Dequeue element:",q.dequeue())

print("Queue after dequeuing an element:",q.queue)

print("Front element:",q.peek())

print("Queue Size:",q.size())

output:

Queue after enqueuing element: [10, 20, 30]

Dequeue element: 10

Queue after dequeuing an element: [20, 30]

Front element: 20

Queue Size: 2