Ans_Sheet_3

2) Write a function that returns the last element in a queue.

(implementation level)

Ans

```
//Question _2 Sheet_3
 EntryType GetLast(QueueType *q)
{
    return (q->arr[Max-1]) ;
}
```

---

3) Write a function that returns a copy from the first element in a queue. (implementation level)

Ans

```
//Question_3 Sheet_3
 EntryType GetFirst(QueueType *q)
{
    return (q->arr[0]);
}
```

---

4) Write a function to destroy a queue (implementation level)

Ans

```
//Question_4 Sheet_3
void Destroy(QueueType *q)
{
    q->front = 0;
    q->rear = Max-1;
    q->size = 0;
}
```

---

5) Write a function to copy a queue to another. (implementation level)

Ans

```
//Question_5 Sheet_3
void Copy(QueueType *q , QueueType *q2)
{
    int item;

    while(!IsEmpty(q) && !IsFull(q2))
    {

        Dequeue(q,&item);
        Enqueue(q2,item);

    }
}
```

---

6) Write a function to return the size of a queue

(implementation level)

Ans

```
//Question_6 Sheet_3
int Size(QueueType *q)
{
    return q->size;
}
```

7) Write a function that returns the last element in a queue. (user level)

Ans

```
//Question_7Sheet_3
EntryType GetLast(QueueType q)
{
    EntryType item;
    while(!IsEmpty(q))
    {
        Dequeue(q,&item);
    }
    return item;
}
```

---

8) Write a function that returns a copy from the first element in a queue. (user level)

Ans

```
//Question_8Sheet_3
 EntryType GetFirst(QueueType q)
{
    EntryType item;
    if(!IsEmpty(q))
    {
        DeQueue(&q,&item);
    }
    return item;
}
```

---

9) Write a function to destroy a queue (user level)

Ans

```
//Question_9Sheet_3
void destroy(QueueType *q)
{
  EntryType x;
    while(!IsEmpty(q))
    {
        Dequeue(q,&x);
    }
}
```

---

10) Write a function to copy a queue to another. (user level)

Ans

```
//Question_10Sheet_3
void copy(QueueType *q , QueueType *q2)
{
  EntryType item,y[Max] ;
    for(int i = 0 ; i < Max ; i ++)
    {
        Dequeue(q,&item);
        y[i] = item;

    }

}
```

---

11) Write a function to return the size of a queue (user level)

Ans

```
//Question_11Sheet_3
int size(QueueType q)
{
    int z = 0 , i , j;
    for(i = 0 ; i < Max ; i ++)
    {
        Dequeue(q,&j);
        z++;
    }
    return i;
}
```