Q) WAP implementing insert, delete and display operation of circular queue.

```
#include <stdio.h>
#define MAX 5
int cqueue_arr[MAX];
int front = 0;
int rear = -1;
int count = 0;
int insert (int item)
  {
    if (count == MAX)
      {
        printf ("Queue Overflow !!\n");
        return;
      }
    else
      {
        rear = (rear+1) % MAX;
        cqueue_arr [rear] = item;
        count = count+1;
        return;
      }
  }
```

```
void deletion()
{
    if (count == 0)
    {
        printf("Queue Underflow !!\n");
        return;
    }
    else
    {
        printf("Element deleted from queue is:
                %d\n", equeue_arr[front]);

        front = (front+1) % MAX;
        count = count - 1;
    }
}

void display()
{
    int i,j;
    if (count == 0)
    {
        printf("Circular Queue is empty\n");
    }
```

```
    else
    {
        printf("Elements in the circular queue are:\n");
        j = front;
        for(i=0; i<count; i++)
        {
            printf("%d\t", cqueue_arr[j]);
            j = (j+1) % MAX;
        }
    }
}
int main()
{
    int choice, item;
    printf("****CIRCULAR QUEUE****\n");
    do
    {
        printf("\n1. Insertion\n");
        printf("2.Deletion\n");
        printf("3. Display\n");
        printf("4. Quit\n");
        printf("Enter your choice:");
        switch(choice)
        {
        case 1:
```

```
        printf("Enter the element for insertion:");
        scanf("%d", &item);
        insert(item);
        break;

    case 2:
            deletion();
            break;
    case 3:
            display();
            break;
    case 4:
            break;
    default:
            printf("Wrong choice\n");
        }
    }
    while(choice != 4);
    return 0;
}
```