Program for circular queue

```
# define max 6
int queue[max];
int front=-1;
int rear=-1;
void enqueue(int element)
    {
   if(front==-1 && rear==-1)
   {
      front=0;
      rear=0;
      queue[rear]=element;
   }
   else if((rear+1)%max==front)
   {
      printf("Queue is overflow..");
   }
   else
   {
      rear=(rear+1)%max;
      queue[rear]=element;
   }
}

int dequeue()
{
   if((front==-1) && (rear==-1))
   {
      printf("\nQueue is underflow..");
   }
 else if(front==rear)
{
  printf("\nThe dequeued element is %d", queue[front]);
  front=-1;
  rear=-1;
}
else
{
   printf("\nThe dequeued element is %d", queue[front]);
  front=(front+1)%max;
}
}
void display()
```

```
{
   int i=front;
   if(front==-1 && rear==-1)
   {
      printf("\n Queue is empty..");
   }
   else
   {
      printf("\nElements in a Queue are :");
      while(i<=rear)
      {
         printf("%d,", queue[i]);
         i=(i+1)%max;
      }
   }
}
int main()
{
   int choice=1,x;

   while(choice<4 && choice!=0)
   {
   printf("\n Press 1: Insert an element");
   printf("\nPress 2: Delete an element");
   printf("\nPress 3: Display the element");
   printf("\nEnter your choice");
   scanf("%d", &choice);

   switch(choice)
   {

      case 1:

      printf("Enter the element which is to be inserted");
      scanf("%d", &x);
      enqueue(x);
      break;
      case 2:
      dequeue();
      break;
      case 3:
      display();

   }}
```

```
    return 0;
}
```

Output

```
 Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element
Enter your choice
1
Enter the element which is to be inserted
10

 Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element
Enter your choice
1
Enter the element which is to be inserted
20

 Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element
Enter your choice
1
Enter the element which is to be inserted
30

 Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element
Enter your choice
3

Elements in a Queue are :10,20,30,
 Press 1: Insert an element
Press 2: Delete an element
Press 3: Display the element
Enter your choice
2

The dequeued element is 10
```