**/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Program To Simulate The Working Of Circular Queue Of Integers Using. Providing Following Operations ..:**

**a). Insert.**

**b). Delete.**

**c). Display.**

**The Program Should Display Appropriate Messages For Queue Empty & Queue Overflow Condition.**

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**#include <stdio.h>**

**#include <conio.h>**

**#include <stdlib.h>**

**#define MAX 3**

**int Que[MAX],front = -1, rear = -1;**

**void enqueue()**

**{**

**int item;**

**printf("\nEnter The Element To Be Inserted : ");**

**scanf("%d",&item);**

**if(front == 0 && rear == MAX-1)**

**printf("\nQueue Overflow.!");**

**else if(front == -1 && rear == -1)**

**{**

**front = rear = 0;**

**Que[rear] = item;**

**}**

**else if(rear == MAX-1 && front != 0)**

**{**

**rear = 0;**

**Que[rear] = item;**

**}**

**else**

**{**

**rear++;**

**Que[rear] = item;**

**}**

**}**

**int dequeue()**

**{**

**int val;**

**if(front == -1 && rear == -1)**

**{ printf("\nQueue Underflow..!");**

**return -1;**

**}**

**val = Que[front];**

**if(front == rear)**

**front = rear = -1;**

**else**

**{**

**if(front == MAX-1)**

**front = 0;**

**else**

**front++;**

**}**

**return val;**

**}**

**void display()**

**{**

**int i;**

**if(front == -1 && rear == -1)**

**printf("\nQueue is Empty..!");**

**else**

**{**

**if(front < rear || front == rear)**

**{**

**for(i = front; i<=rear; i++)**

**printf("\t %d",Que[i]);**

**}**

**else**

**{**

**for(i = front; i<MAX; i++)**

**printf("\t %d",Que[i]);**

**for(i = 0;i <= rear;i++)**

**printf("\t %d",Que[i]);**

**}**

**}**

**}**

**int main()**

**{**

**int choice,value;**

**clrscr();**

**printf("\nImplementation Of Circular.\n");**

**do**

**{**

**printf("\nThe Choices Are : ");**

**printf("\n1.Insert.\n2.Delete.\n3.Display.\n4.Exit.\n");**

**printf("\nEnter Your Choice : ");**

**scanf("%d",&choice);**

**switch(choice)**

**{**

**case 1 : enqueue();**

**break;**

**case 2 : value = dequeue();**

**if(value!=-1)**

**printf("\nItem %d is Deleted.",value);**

**break;**

**case 3 : display();**

**break;**

**case 4 : printf("\nTHANK YOU..!");**

**exit(0);**

**break;**

**default : printf("\nInvalid Choice..!");**

**}**

**}while(choice!=4);**

**getch();**

**return 0;**

**}**