

```

/*****
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/***** Class :- XII A *****/
/***** Date :- 15 October 2014 *****/
/***** Q-19):- Circular Queue *****/
/*****

```

.....Circular Queue1/ Without OOPS/ Statically.....

```

#include<iostream.h>
#include<conio.h>
#include<ctype.h>
/////////////////////////////////////////////////////////////////
#define N 3 //n taken small to verfiy the working
/////////////////////////////////////////////////////////////////
struct student
{
    int roll;
};
/////////////////////////////////////////////////////////////////
int front=-1, rear=-1;
student Q[N];
/////////////////////////////////////////////////////////////////
void insert()
{
    if(front==rear+1 || front==0 && rear==N-1)
        cout<<"\noverflow";
    else
    {
        if(front==-1)
            front=rear=0;
        else
        {
            rear++;
            if(rear==N)
                rear=0;
        }
        cout<<"Enter Roll:\t";    cin>>Q[rear].roll;
    }
}
/////////////////////////////////////////////////////////////////
void del()
{
    if(front==-1)
        cout<<"Underflow";
    else
    {
        {
            if(rear==front)
                rear=front=-1;
            else
                front++;
        }
    }
}

```

```
if(front==N)
    front=0;
}
}
//////////////////////////////////////////////////////////////////////////////////////////////////////////////////
void display()
{
int i=0;

if(front==-1)
    cout<<"Underflow";

else
{
i=front;

while(i!=rear)
{
cout<<"\nRoll\t";
cout<<Q[i].roll;
i++;
if(i==N)
    i=0;
}
cout<<"\nRoll\t";
cout<<Q[rear].roll;
}
}
//////////////////////////////////////////////////////////////////////////////////////////////////////////////////

//*****Void Main()*****//
void main()
{
clrscr();
int ch;

do
{
cout<<"\n\tMain Menu:"
    <<"\n1)\tINSERT"
    <<"\n2)\tDELETE"
    <<"\n3)\tDISPLAY";
cout<<"\n\nEnter Choice\t";      cin>>ch;
switch(ch)
{
case 1:
    insert();
    break;
case 2:
    del();
    break;
```

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case 3:
    display();
    break;
default:
    cout<<"Invalid Choice";
}
cout<<"\nPress Y to continue:\t";
}while(toupper(getche())=='Y');
}
//*****End Of Main*****//

```

OUTPUT 1

```

Main Menu:
1) INSERT
2) DELETE
3) DISPLAY

Enter Choice 1
Enter Roll: 1

Press Y to continue: y
Main Menu:
1) INSERT
2) DELETE
3) DISPLAY

Enter Choice 1
Enter Roll: 2

Press Y to continue: y
Main Menu:
1) INSERT
2) DELETE
3) DISPLAY

Enter Choice 1
Enter Roll: 3

Press Y to continue: y
Main Menu:
1) INSERT
2) DELETE
3) DISPLAY

Enter Choice 1
overflow
Press Y to continue: y

```


[illegible]

```
void display()
{
    int i=0;

    if(front==-1)
        cout<<"Underflow";

    else
    {
        i=front;

        while(i!=rear)
        {
            cout<<"\nRoll\t";
            cout<<Q[i].roll;
            i++;
            if(i==N)
                i=0;
        }
        cout<<"\nRoll\t";
        cout<<Q[rear].roll;
    }
}

};
```

```

//*****Void Main()*****//
void main()
{
clrscr();
int ch;

cqueue c;

do
{
cout<<"\n\tMain Menu:"
    <<"\n1)\tINSERT"
    <<"\n2)\tDELETE"
    <<"\n3)\tDISPLAY";
cout<<"\n\nEnter Choice\t";      cin>>ch;
switch(ch)
{
case 1:
    c.insert();
    break;
case 2:
    c.del();
    break;

```

```

case 3:
    c.display();
    break;
default:
    cout<<"Invalid Choice";
}
cout<<"\nPress Y to continue:\t";
}while(toupper(getche())=='Y');
}
//*****End Of Main*****//

```

OUTPUT 2

```

Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    1
Enter Roll:     1

Press Y to continue:    y
Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    1
Enter Roll:     2

Press Y to continue:    y
Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    3

Roll    1
Roll    2
Press Y to continue:    y
Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    2

Press Y to continue:    y
Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    2

Press Y to continue:

```

```
      Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    2

Press Y to continue:  y
      Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    2
Underflow
Press Y to continue:  y
      Main Menu:
1)    INSERT
2)    DELETE
3)    DISPLAY

Enter Choice    3
Underflow
Press Y to continue:
```

.....