

Roll No:07

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practical No:5

Queue\_07

```
#include<iostream>
#define MAX 100

using namespace std;

class Queue
{
public:

    int n;
    int size;
    int rear;
    int front;

    int top;
    int arr[MAX];
    Queue()
    {
        front=0;
        rear=-1;
    }
    void enqueue();
    void dequeue();
    void display();
};

void Queue::enqueue()
{
    if(rear==size-1)
    {
        cout<<"queue overflow"<<endl;
    }

    else
    {
        rear=rear+1;
        cout<<"enter the element to enqueued"<<endl;
        cin>>n;
        arr[rear]=n;
        cout<<"the element"<<n<<"has been inserted at location"<<rear<<endl;
    }
}

void Queue::dequeue()
```

```

{
if(front>rear)
{
cout<<"queue underflow";
}
else
{

//front=front+1;

cout<<"element "<<arr[ front++ ]<<" has been popped out"<<endl;
}

}

void Queue::display()
{
if(front>rear)
{
cout<<"queue is empty"<<endl;
}

else
{
cout<<"the queue is : "<<endl;

for (int i=front;i<=rear;i++)
{
cout<<arr[i]<<endl;
}
}
}

int main()
{
Queue s;
int ch;

cout<<" enter the size of Queue array"<<endl;
cin>>s.size;

do{
cout<<"enter the choice"<<endl;
cout<<"1:enqueue"<<endl;
cout<<"2:dequeue"<<endl;
cout<<"3:display"<<endl;
cout<<"4:exit"<<endl;

cin>>ch;

```

```

switch(ch)
{
    case 1:
        s.enqueue();
    break;
    case 2:
        s.dequeue();
    break;

    case 3:
        s.display();

    break;
    case 4:
    break;
    default:
        cout<<" enter the choice from 1 to 4 only"<<endl;
    break;
}
}while(ch!=4);
return 0;
}

```

output:

```

mca@mca-OptiPlex-390: ~/Documents/ds
mca@mca-OptiPlex-390:~/Documents/ds$ clear
mca@mca-OptiPlex-390:~/Documents/ds$ g++ queue.cpp -o q
mca@mca-OptiPlex-390:~/Documents/ds$ ./q
enter the size of Queue array
4
enter the choice
1:enqueue
2:dequeue
3:display
4:exit
1
enter the element to enqueued
3
the element3has been inserted at location0
enter the choice
1:enqueue
2:dequeue
3:display
4:exit
1
enter the element to enqueued
4
the element4has been inserted at location1
enter the choice
1:enqueue
2:dequeue
3:display
4:exit
2
element 3 has been popped out
enter the choice
1:enqueue
2:dequeue
3:display
4:exit
3
the queue is :
4
enter the choice
1:enqueue

```