/\*Queues are frequently used in computer programming, and a typical example is the

creation of a job queue by an operating system. If the operating system does not use

priorities, then the jobs are processed in the order they enter the system. Write C++

program for simulating job queue. Write functions to add job and delete job from queue.\*/

#include<iostream>

using namespace std;

class Queue

{

    public:

    const static int size=10;

    int rear=-1;

    int front=-1;

    int queue[size];

    void enqueue(int x)

    {

        if(rear==size-1)

        {

            cout<<"Overflow!!!";

        }

        else if(front==-1 and rear==-1)

        {

            front=rear=0;

            queue[rear]=x;

        }

        else

        {

            rear++;

            queue[rear]=x;

        }

    }

    void dequeue()

    {

        if(front==-1 and rear==-1)

        {

            cout<<"Underflow!!![Queue is Empty]"<<endl;

        }

       else if(front == rear)

        {

            front = rear = -1;

        }

       else

        {

            cout<<queue[front]<<endl;

            front = (front+1)%size;

        }

    }

    void display()

    {

        if (front==-1 and rear==-1)

        {

            cout<<"Queue is Empty!"<<endl;

        }

        else

       { cout<<"Queue Contains:";

        for(int i=front;i<=rear;i++)

        {

            cout<<queue[i]<<" ";

        }

        cout<<endl;

       }

    }

};

int main()

{

Queue job\_line;

int choice,val;

do{

cout<<"Enter the option No. to perform the operations:"<<endl;

cout<<"Note:(Job no. should be in integer type)"<<endl;

cout<<"1.To Add Job"<<endl;

cout<<"2.To Delete Job "<<endl;

cout<<"3.To display Queue"<<endl;

cout<<"4. exit"<<endl;

cin>>choice;

  switch(choice)

  {

   case 1:

   cout<<"Enter Job:"<<endl;

   cin>>val;

   job\_line.enqueue(val);

   break;

   case 2:

   cout<<"The Deleted Job No.:";

   job\_line.dequeue();

   //job\_line.display();

   break;

   case 3:

   //cout<<"The Queue is:"<<endl;

   job\_line.display();

   break;

   case 4:

   break;

   default:

   cout<<"Enter valid option:";

   break;

  }

}

  while(choice!=4);

return 0;

}

OutPUT:-

Enter the option No. to perform the operations:

Note:(Job no. should be in integer type)

1.To Add Job

2.To Delete Job

3.To display Queue

4. exit

1

Enter Job:

101

Enter the option No. to perform the operations:

Note:(Job no. should be in integer type)

1.To Add Job

2.To Delete Job

3.To display Queue

4. exit

1

Enter Job:

103

Enter the option No. to perform the operations:

Note:(Job no. should be in integer type)

1.To Add Job

2.To Delete Job

3.To display Queue

4. exit

1

Enter Job:

105

Enter the option No. to perform the operations:

Note:(Job no. should be in integer type)

1.To Add Job

2.To Delete Job

3.To display Queue

4. exit

2

The Deleted Job No.:101

Enter the option No. to perform the operations:

Note:(Job no. should be in integer type)

1.To Add Job

2.To Delete Job

3.To display Queue

4. exit

3

Queue Contains:103 105

Enter the option No. to perform the operations:

Note:(Job no. should be in integer type)

1.To Add Job

2.To Delete Job

3.To display Queue

4. exit

4