Name : Shruti Mohan Baravkar

Exam seat no:

Roll no: SE 265

Batch no: B1

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**ASSIGNMENT NO : 12**

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;

#define MAX 50

class Queue

{

public:

int que[MAX], first = -1, last= -1;

void InsertQueue()

{

int val;

if(last == MAX-1)

{

cout<<"Queue Overflow!!!"<<endl;

}

else

{

if(first == -1)

first = 0;

cout<<"Insert element in Queue : ";

cin>>val;

last++;

que[last] = val;

}

}

void DeleteQueue()

{

if(first == -1 || first>last)

{

cout<<"Queue Underflow!!!"<<endl;

return;

}

else

{

cout<<"Element Deleted from Queue : "<<que[first]<<endl;

first++;

}

}

void DisplayQueue()

{

if(first == -1)

{

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

}

else

{

cout<<"Queue Elements :\n";

for(int i=first; i<=last; i++)

cout<<que[i]<<endl;

cout<<endl;

}

}

};

int main()

{

Queue Q;

cout<<"\*\*\* Queue \*\*\*\n"<<endl;

cout<<"1. Insert element in Queue."<<endl;

cout<<"2. Delete element from Queue."<<endl;

cout<<"3. Display elements of Queue."<<endl;

cout<<"4. Exit."<<endl;

int ch;

do{

cout<<"Enter your Choice : ";

cin>>ch;

switch(ch)

{

case 1:

Q.InsertQueue();

break;

case 2:

Q.DeleteQueue();

break;

case 3:

Q.DisplayQueue();

break;

case 4:

cout<<"Exit.";

break;

default:

cout<<"Invalid Choice."<<endl;

}

}while(ch != 4);

return 0;

}

**Output :**

\*\*\* Queue \*\*\*

1. Insert element in Queue.

2. Delete element from Queue.

3. Display elements of Queue.

4. Exit.

Enter your Choice : 3

Queue is Empty!!!

Enter your Choice : 1

Insert element in Queue : 20

Enter your Choice : 1

Insert element in Queue : 40

Enter your Choice : 1

Insert element in Queue : 60

Enter your Choice : 1

Insert element in Queue : 80

Enter your Choice : 1

Insert element in Queue : 100

Enter your Choice : 3

Queue Elements :

20

40

60

80

100

Enter your Choice : 2

Element Deleted from Queue : 20

Enter your Choice : 3

Queue Elements :

40

60

80

100

Enter your Choice : 4

Exit.