**Assignment D28**

/\*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>

**#define** MAX 5

**using** **namespace** std;

**class** Queue {

**int** data[MAX];

**int** front, rear;

**public**:

**Queue**() {

front = rear = -1;

}

**int** **isempty**();

**int** **isfull**();

**void** **enqueue**(**int**);

**int** **delqueue**();

**void** **display**();

};

**int** **Queue::isempty**() {

**return** (front == -1 **and** rear == -1) ? 1 : 0;

}

**int** **Queue::isfull**() {

**return** (rear == MAX - 1) ? 1 : 0;

}

**void** **Queue::enqueue**(**int** x) {

data[++rear] = x;

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

front = 0;

}

**int** **Queue::delqueue**() {

**int** temp = front;

front++;

**if** (front > rear)

front = rear = -1;

**return** data[temp];

}

**void** **Queue::display**() {

**int** i;

**if** (isempty())

cout << "\n Queue is empty";

**else** {

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

cout << "\n";

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

cout << data[i] << " ";

}

}

**int** **main**() {

Queue obj;

**int** ch, x;

**do** {

cout<< "\n 1.Insert job\n 2.Delete job\n 3.Display\n 4.Exit\n Enter your choice:";

cin >> ch;

**switch** (ch) {

**case** 1:

**if** (obj.isfull())

cout << " Queue is overflow";

**else** {

cout << "\n Enter data:";

cin >> x;

obj.enqueue(x);

}

**break**;

**case** 2:

**if** (obj.isempty())

cout << "\n Queue is underflow";

**else** {

cout << " Deleted element=" << obj.delqueue();

}

**break**;

**case** 3:

obj.display();

**break**;

**case** 4:

cout << "\n Exit";

}

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

**return** 0;

}

**Output:**

1.Insert job

2.Delete job

3.Display

4.Exit

Enter your choice:1

Enter data:10

1.Insert job

2.Delete job

3.Display

4.Exit

Enter your choice:1

Enter data:20

1.Insert job

2.Delete job

3.Display

4.Exit

Enter your choice:1

Enter data:30

1.Insert job

2.Delete job

3.Display

4.Exit

Enter your choice:3

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

10 20 30

1.Insert job

2.Delete job

3.Display

4.Exit

Enter your choice:2

Deleted element=10

1.Insert job

2.Delete job

3.Display

4.Exit

Enter your choice: