**Assignment- E11**

**Name of Student: Sumit Bhamare**

**Roll No.:08**

**Problem Statement:**

# 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.

**Program:**

#include<iostream>

using namespace std;

#define size 5

class JobQue

{

private:

struct queue

{

int que[size];

int front, rear;

}Q;

public:

JobQue();//constructor

int Qfull();

int insert(int);

int Qempty();

int delet();

void display();

};

JobQue::JobQue()//Initializing the Job Queue

{

Q.front = -1;//-1 indicates it is empty

Q.rear = -1;

}

int JobQue::Qfull()

{

if (Q.rear >= size-1)

return 1;

else

return 0;

}

/\* The insert Function \*/

int JobQue::insert(int item)

{

if (Q.front == -1)

Q.front++;

Q.que[++Q.rear] = item;

return Q.rear;

}

int JobQue::Qempty()

{

if ((Q.front == -1) || (Q.front > Q.rear))

return 1;

else

return 0;

}

/\* The delet Function \*/

int JobQue::delet()

{

int item;

item = Q.que[Q.front];

Q.front++;

cout << "\n The deleted Job is: " << item;

return Q.front;

}

/\* The display Function \*/

void JobQue::display()

{

int i;

for (i = Q.front; i <= Q.rear; i++)

cout << " " << Q.que[i];

}

int main(void)

{

int choice, item;

char ans;

JobQue obj;

do

{

cout << "\n Main Menu";

cout << "\n1.ADD Job\n2.Delete Job\n3.Display Job Queue";

cout << "\n Enter Your Choice: ";

cin >> choice;

switch (choice)

{

case 1:if (obj.Qfull()) //checking for Queue overflow

cout << "\n Can not insert the Job";

else

{

cout << "\n Enter The Job number: ";

cin >> item;

obj.insert(item);

}

break;

case 2:if (obj.Qempty())

cout << "\n Queue Underflow!!";

else

obj.delet();

break;

case 3:if (obj.Qempty())

cout << "\nJob Queue Is Empty!";

else

obj.display();

break;

default:cout << "\n Wrong choice!";

break;

}

cout << "\n Do You Want to continue? (Y/N): ";

cin>>ans;

} while (ans == 'Y' || ans == 'y');

return 0;

}

**Output:**

