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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.

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#include<iostream>

using namespace std;

#define size 5

class JobQue

{

private:

struct queue

{

int que[size];

int front,rear;

}Q;

public:

JobQue();

int Qfull();

int insert(int);

int Qempty();

int delet();

void display();

};

JobQue::JobQue() //initilization the job queue

{

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

Q.rear=-1;

}

int JobQue::Qfull()

{

if(Q.rear>=size-1)

return 1;

else

return 0;

}

//The insert functiom

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 delete function

int JobQue::delet()

{

int item;

item=Q.que[Q.front];

Q.front++;

cout<<"\nThe deleted job is ::"<<item;

return Q.front;

}

void JobQue::display()

{

int i;

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

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

}

int main()

{

int choice,item;

char ans;

JobQue obj;

do

{

cout<<"\nMain Menu ::";

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

cout<<"\nEnter your choice::";

cin>>choice;

switch(choice) {

case 1:

if(obj.Qfull()) //Checking for queue overflow

cout<<"\n Can not insert the job::";

else

{

cout<<"\nEnter the job number :::";

cin>>item;

obj.insert(item);

}

break;

case 2:

if(obj.Qempty())

cout<<"\nQueue Underflow ::";

else

obj.delet();

break;

case 3:

if(obj.Qempty())

cout<<"\nJob Queue is empty";

else

obj.display();

break;

default:

cout<<"\nWrong Choice::";

break;

}

cout<<"\nDo you want to continue?";

cin>>ans;

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

return 0;

}

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OUTPUT :

Main Menu ::

1.Add Job

2.Delete Job

3. Display Job Queue

Enter your choice::1

Enter the job number :::3

Do you want to continue?y

Main Menu ::

1.Add Job

2.Delete Job

3. Display Job Queue

Enter your choice::1

Enter the job number :::2

Do you want to continue?y

Main Menu ::

1.Add Job

2.Delete Job

3. Display Job Queue

Enter your choice::1

Enter the job number :::6

Do you want to continue?y

Main Menu ::

1.Add Job

2.Delete Job

3. Display Job Queue

Enter your choice::2

The deleted job is ::3

Do you want to continue?y

Main Menu ::

1.Add Job

2.Delete Job

3. Display Job Queue

Enter your choice::3

2 6

Do you want to continue?

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