EXPERIMENT NO:11

INPUT:

/\*

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>

#define MAX 10

using namespace std;

struct queue

{ int data[MAX];

int front,rear;

};

class Queue

{ struct queue q;

public:

Queue(){q.front=q.rear=-1;}

int isempty();

int isfull();

void enqueue(int);

int delqueue();

void display();

};

int Queue::isempty()

{

return(q.front==q.rear)?1:0;

}

int Queue::isfull()

{ return(q.rear==MAX-1)?1:0;}

void Queue::enqueue(int x)

{q.data[++q.rear]=x;}

int Queue::delqueue()

{return q.data[++q.front];}

void Queue::display()

{ int i;

cout<<"\n";

for(i=q.front+1;i<=q.rear;i++)

cout<<q.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<<"\n Enter data : \n";

cin>>x;

obj.enqueue(x);

cout<<endl;

}

else

cout<< "Queue is overflow!!!\n\n";

break;

case 2: if(!obj.isempty())

cout<<"\n Deleted Element = "<<obj.delqueue()<<endl;

else

{ cout<<"\n Queue is underflow!!!\n\n"; }

cout<<"\nRemaining Jobs : \n";

obj.display();

break;

case 3: if (!obj.isempty())

{ cout<<"\n Queue contains : \n";

obj.display();

}

else

cout<<"\n Queue is empty!!!\n\n";

break;

case 4: cout<<"\n Exiting Program.....";

}

}while(ch!=4);

return 0;

}

OUTPUT:

1.Insert Job

2.Delete Job

3.Display

4.Exit

Enter your choice : 1

Enter data :

9

1.Insert Job

2.Delete Job

3.Display

4.Exit

Enter your choice : 1

Enter data :

7

1.Insert Job

2.Delete Job

3.Display

4.Exit

Enter your choice : 1

Enter data :

6

1.Insert Job

2.Delete Job

3.Display

4.Exit

Enter your choice : 3

Queue contains :

9 7 6

1.Insert Job

2.Delete Job

3.Display

4.Exit

Enter your choice : 4

Exiting Program.....

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Process exited after 22.81 seconds with return value 0

Press any key to continue . . .