**INPUT CODE:**

#include<iostream>

using namespace std;

const int MAX = 10;

struct job {

int data[MAX];

int front, rear;

};

class Queue {

struct job j;

public:

Queue() {

j.front = j.rear = -1;

}

bool isEmpty();

bool isFull();

void insertElement();

void removeElement();

void displayData();

};

bool Queue::isEmpty() {

if ((j.front == j.rear) || j.rear == -1) {

return true;

}

return false;

}

bool Queue::isFull() {

return (j.rear == (MAX - 1) ? true : false);

}

void Queue::insertElement() {

if (isFull()) {

cout << "Queue Overflow" << endl;

} else {

int x;

cout << "Enter Data: ";

cin >> x;

j.data[++j.rear] = x;

}

}

void Queue::removeElement() {

if (isEmpty()) {

cout << "Queue Underflow" << endl;

} else {

cout << "Element removed: " << j.data[j.front + 1] << endl;

j.front++;

}

}

void Queue::displayData() {

for (int i = j.front + 1; i <= j.rear; i++) {

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

}

cout << endl;

}

int main() {

Queue obj;

bool flag = true;

while (flag) {

cout << "CHOICES: " << endl;

cout << "1. Enter Data\n2. Remove Element\n3. Display Data\n4. Exit" << endl;

int ch;

cout << "Enter your choice: ";

cin >> ch;

switch (ch) {

case 1:

obj.insertElement();

break;

case 2:

obj.removeElement();

break;

case 3:

obj.displayData();

break;

case 4:

cout << "Program ended !!" << endl;

flag = false;

break;

default:

cout << "Invalid choice " << endl;

break;

}

}

return 0;

}

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**OUTPUT:**

CHOICES:

1. Enter Data

2. Remove Element

3. Display Data

4. Exit

Enter your choice: 1

Enter Data: 5

CHOICES:

1. Enter Data

2. Remove Element

3. Display Data

4. Exit

Enter your choice: 1

Enter Data: 10

CHOICES:

1. Enter Data

2. Remove Element

3. Display Data

4. Exit

Enter your choice: 3

5 10

CHOICES:

1. Enter Data

2. Remove Element

3. Display Data

4. Exit

Enter your choice: 2

Element removed: 5

CHOICES:

1. Enter Data

2. Remove Element

3. Display Data

4. Exit

Enter your choice: 3

10

CHOICES:

1. Enter Data

2. Remove Element

3. Display Data

4. Exit

Enter your choice: 4

Program ended !!