# #12

#include <iostream> #include<bits/stdc++.h> using namespace std; const short MAX = 10; class Deque{

int data[MAX]; int front, rear;

public: Deque(){

front = rear = -1;

}

public:

};

void addFront(); void addRear(); void removeFront(); void removeRear();

void Deque::addFront(){ int num;

cout << "\n Enter item to insert : "; cin >> num;

if(front<=1){

cout << "\n Cannot add item at front end" << endl; return;

}

else{

}

}

front--; data[front]=num;

void Deque::addRear(){ int num;

cout << "\n Enter Item to insert : "; cin >> num;

if(rear==MAX){

cout << "\n Queue is Overflow"; return;

}

else{

}

}

rear++; data[rear]=num; if(rear==0)

rear=1; if(front==0)

front=1;

void Deque::removeFront(){ int num;

if(front==0){

cout << "\n Queue is Underflow\n"; return;

}

else{

num=data[front];

cout << "\n Deleted item is : " << num << endl; if(front==rear){

front=0; rear=0;

}

else{

}

}

}

front++;

void Deque::removeRear(){ int num; if(rear==0){

cout << "\n Cannot delete item at rear end\n" << endl; return;

}

else{

num=data[rear]; if(front==rear){

front=0; rear=0;

}

else{

}

}

}

rear--;

cout << "\n Deleted item is : " << num << endl;

int main(){

Deque obj; int ch = 0; do{

cout << "Choices : " << endl;

cout << "1. Insert Element at the front-end\n2. Insert Element at the rear-end\n3.

Remove Element from the front\n4. Remove Element from the back\n5. Exit"<< endl; cout << "Enter your choice : ";

cin >> ch; switch(ch){ case 1:

case 2:

case 3:

obj.addFront(); break;

obj.addRear(); break;

case 4:

case 5:

obj.removeFront(); break;

obj.removeRear(); break;

cout << "Program Ended !!!!" << endl; break;

default:

cout << "Invalid Choice "<< endl; break;

}

}while(ch != 5);

}