#include <iostream>

#include <list>

using namespace std;

class Queue {

public:

int a;

list<int> q;

void push() {

cout << "\nEnter a number: ";

cin >> a;

q.push\_back(a);

cout << a << " has been added to the queue.\n";

}

void displayQueue() {

if (q.empty()) {

cout << "\nThe queue is empty.\n";

return;

}

cout << "\nThe elements in the queue are:\n";

for (list<int>::iterator itr = q.begin(); itr != q.end(); ++itr) {

cout << \*itr << "\t";

}

cout << endl;

}

void pop() {

if (q.empty()) {

cout << "\nThe queue is empty. Nothing to pop.\n";

return;

}

int frontElement = q.front();

q.pop\_front();

cout << "\nThe element popped out of the queue is: " << frontElement << endl;

}

};

int main() {

Queue q;

int choice;

char ans;

do {

cout << "\n1. Add element"

<< "\n2. Delete element"

<< "\n3. Display queue elements"

<< "\nEnter the operation you want to perform: ";

cin >> choice;

switch (choice) {

case 1:

q.push();

break;

case 2:

q.pop();

break;

case 3:

q.displayQueue();

break;

default:

cout << "\nInvalid choice! Please select a valid option.\n";

}

cout << "\nDo you want to perform any other operation? (Y/N): ";

cin >> ans;

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

return 0;

}