#ifndef QUEUE\_H

#define QUEUE\_H

#include "LINKEDLIST.h"

class Queue

{

public:

Queue();

virtual ~Queue();

bool isEmpty();

void push(int);

int pop();

int top();

// them ptu cuoi

void addTail(int);

// lay gia tri cuoi va xoa cuoi

int popTail();

void printQueue();

protected:

private:

LINKEDLIST \*linkedlist;

};

#endif // QUEUE\_H

#include "Queue.h"

#include "iostream"

using namespace std;

Queue::Queue()

{

this->linkedlist = new LINKEDLIST();

}

Queue::~Queue()

{

//dtor

}

bool Queue::isEmpty()

{

if(this->linkedlist->Gethead() == nullptr) return true;

return false;

}

// them ptu vao dau

void Queue::push(int val)

{

this->linkedlist->InsertTail(new ELEMENT(val));

}

// lay gtri ptu tren cung ra khoi ngan xep

int Queue::pop()

{

int val = this->linkedlist->Gethead()->Getdata();

this->linkedlist->DeleteFirst();

return val;

}

// lay gia tri ptu tren cung ra khoi ngan xep

int Queue::top()

{

return this->linkedlist->Gethead()->Getdata();

}

void Queue::addTail(int val)

{

this->linkedlist->InsertTail(new ELEMENT(val));

}

int Queue::popTail()

{

int p = this->linkedlist->Gettail()->Getdata();

this->linkedlist->DeleteTail();

return p;

}

void Queue::printQueue()

{

if(isEmpty())

{

cout << "\nSTACK RONG, KHONG LAY DUOC PHAN TU" << endl;

}

else

{

this->linkedlist->Travel();

}

}

#include <iostream>

#include "Queue.h"

using namespace std;

int main()

{

int x;

Queue \*s=new Queue();

for(int i=0; i < 3; i++)

{

cout << "\nNhap phan tu "<< i+1<<": "; cin >> x;

}

for(int i=0; i<4; i++)

{

if(s->isEmpty())

{

cout << s->top();

cout << "\nSTACK RONG, KHONG LAY DUOC PHAN TU" << endl;

}

else

{

cout << "\nGia tri lay ra: " << s->pop();

}

}

// s->push(20);

// s->printStack();

// s->pop();

// cout<<"\n";

// s->printStack();

return 0;

}