**STACKPAC.h**

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KAHLIL BELLO

DATA STRUTURES

SEPTEMBER 19, 2018

project EXTRA HEADER STACK TEMPLATE

\*/

#pragma once

#ifndef STACKPAC

#define STACKPAC

template<class T, int n>

class STACK

{

private:

T a[n];//T for typ, n for length

int counter;

public:

void clearStack()

{

counter = 0;

}//end clearStack

bool emptyStack()

{

return (counter == 0) ? true : false;

}//end emptyStack

bool fullStack()

{

return (counter == n) ? true : false;

}//end fullStack

void pushStack(T x)

{

a[counter] = x;

counter++;

}//end pushStack

T popStack()

{

counter--;

return a[counter];

}//end popStack

};//end class STACK

#endif

**Source.cpp**

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#include <iostream>

#include <string>

#include <cstring>

#include "STACKPAC.h"

using namespace std;

int main()

{

//TEST

/\*cout << "Test integer type in stack. . ." << endl;

STACK <int, 5>P;

P.clearStack(); //counter is now 0

P.pushStack(7); //counter 0

P.pushStack(11); //counter 1

P.pushStack(17); //counter 2

cout << P.popStack() << endl; //reduce counter by 1 so back to counter 2

cout << P.popStack() << endl; //reduce counter by 1 so back to counter 1

cout << "End integer test. . .\n##########################\n";\*/

STACK<string, 7>Days;

Days.clearStack();

Days.pushStack("Sunday");

Days.pushStack("Saturday");

Days.pushStack("Friday");

Days.pushStack("Thursday");

Days.pushStack("Wednesday");

Days.pushStack("Tuesday");

Days.pushStack("Monday");

cout << "Days of the Week:\n";

while (!Days.emptyStack())

{

string days = Days.popStack();

cout << days << " ";

}

cout << "\n\n#############################################################\n";

//end STACK Days

STACK<char, 26>Letters;

Letters.clearStack();

for (int i = 1; i <= 26; ++i)

{

Letters.pushStack(char(91-i));

}

cout << "Characters alphabet:\n";

while (!Letters.emptyStack())

{

char chars = Letters.popStack();

cout << chars << " ";

}

cout << "\n\n";

system("pause");

return 0;

}

/\*

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OUTPUT:

Days of the Week:

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

#############################################################

Characters alphabet:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Press any key to continue . . .

\*/

