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KAHLIL BELLO

DATA STRUCTURES

OCT 3, 2018

PROJ 5 PROB 1

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#include <iostream>

using namespace std;

struct node

{

int num;

node \*next;

};//end node

int main()

{

/\*int a[4] = {1,9,1,3};

node \*p; //p is a pointer to node

p = new(node);

p->num = a[0];

p->next = new(node);

p->next->num = a[1];

p->next->next = new(node);

p->next->next->num = a[2];

p->next->next->next = new(node);

p->next->next->next->num = a[3];

node \*c = p;\*/

int a[4] = { 3,6,9,1 };

node \*p;

p = new(node); //p->[ ]

p->num = a[0];

p->next = NULL;

node \*r;

int sum=(p->num);

int nodesCounter = 0;

//since we used a[0] we start loop at 1

for (int i = 1; i < 4; ++i)

{

//create new node

r = new(node);

r->num = a[i];

//p->[3], want r->[6] to conenct to p

//connect pointers

//i.)

r->next = p;

p = r;

//ii.)

sum += (r->num);

}//end for

//---------i.) display results in LIFO------------

cout << "Content of the nodes are in LIFO: ";

while (r != NULL)

{

nodesCounter++;

cout << (r->num) << "->";

r = r->next;

}//end while

cout << "NULL\n";

//----------ii.) compute total of all nodes------

cout << "The total of all the numbers is: " << sum << endl;

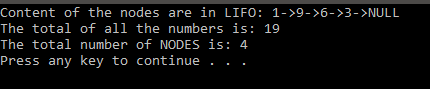
//----------iii.) determine how many nodes in linked list-----

cout << "The total number of NODES is: " << nodesCounter << endl;

system("pause");

return 0;

}//end main



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KAHLIL BELLO

DATA STRUCTURES

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PROJ 5 PROB 2

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#include <iostream>

#include <iomanip>

#include <string>

#include "STACKPAC.h"

using namespace std;

int main()

{

STACK<int, 20> S;

string token;

int tokenVal=0;

int x, y, r;

char again = 'y';

int i = 0;

do {

S.clearStack();

cout << "Enter a postfix expression: ";

while (cin >> token, token != "$")

{

if (isalpha(token[0]))

{

cout << "Enter value for " << token << ": ";

/\*for (int j = 0; j < 20; j++)

{

if (token[i] == '\0') //= tokenVal;

cin >> tokenVal; // this cin gets skipped entirely

cout << "Value of " << token << " is " << tokenVal << endl;

S.pushStack(tokenVal);

}\*/

cin >> tokenVal; // this cin gets skipped entirely

cout << "Value of " << token << " is " << tokenVal << endl;

S.pushStack(tokenVal);

} //endif

else if (isdigit(token[0]))

{

tokenVal = stoi(token);

S.pushStack(tokenVal);

} //end elseif

else

{

switch (char(token[0]))

{

case '+':

x = S.popStack();

y = S.popStack();

r = y + x;

S.pushStack(r);

break;

case '-':

x = S.popStack();

y = S.popStack();

r = y - x;

S.pushStack(r);

break;

case '\*':

x = S.popStack();

y = S.popStack();

r = y \* x;

S.pushStack(r);

break;

case '/':

x = S.popStack();

y = S.popStack();

r = y / x;

S.pushStack(r);

break;

}//end switch

} // End else

cin >> token;

}//end while

cout << "Final value = " << S.popStack() << endl;

} while ((again == 'y') || (again == 'Y'));//end dowhile

system("pause");

return 0;

}//end main

