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NIM: 103032400036

Kelas: IT-48-05

Jawaban Tugas Pendahuluan Modul 7

File stack.h

```
stack.h X stack.cpp X main.cpp X
1  #ifndef STACK_H_INCLUDED
2  #define STACK_H_INCLUDED
3
4  const int MAXSTACK = 10;
5  typedef int infotype;
6  struct stack{
7      infotype info[MAXSTACK];
8      int top;
9  } ;
10
11 void createStack_103032400036(stack &S);
12 bool isEmpty_103032400036(stack S);
13 bool isFull_103032400036(stack S);
14 void push_103032400036(stack &S, infotype x);
15 infotype pop_103032400036(stack &S);
16 int sumStack_103032400036(stack S);
17 #endif // STACK_H_INCLUDED
18
```

File stack.cpp

```
stack.h X stack.cpp X main.cpp X
1  #include <iostream>
2  #include "stack.h"
3
4  using namespace std;
5
6  void createStack_103032400036(stack &S) {
7      S.top = 0;
8  }
9
10 bool isEmpty_103032400036(stack S) {
11     if (S.top == 0) {
12         return true;
13     } else {
14         return false;
15     }
16 }
17
18 bool isFull_103032400036(stack S) {
19     if (S.top == MAXSTACK) {
20         return true;
21     } else {
22         return false;
23     }
24 }
25
26 void push_103032400036(stack &S, infotype x) {
27     if (!isFull_103032400036(S)) {
28         S.info[S.top] = x;
29         S.top++;
30     }
31 }
32
33 infotype pop_103032400036(stack &S) {
34     infotype x;
35
36     S.top = S.top - 1;
37     x = S.info[S.top];
38     return x;
39 }
40
41 int sumStack_103032400036(stack S) {
42     int total;
43
44     total = 0;
45     while (!isEmpty_103032400036(S)) {
46         total += pop_103032400036(S);
47     }
48     return total;
49 }
50
```

File main.cpp

```
stack.h X stack.cpp X main.cpp X
1  #include <iostream>
2  #include "stack.h"
3  using namespace std;
4
5  int main() {
6      stack S;
7      infotype x;
8      int i;
9
10     cout << "Nama : Sheren Aulia Azahra" << endl;
11     cout << "NIM : 103032400036" << endl;
12     cout << "Kelas: IT-48-05" << endl;
13     cout << endl;
14
15     createStack_103032400036(S);
16     i = 0;
17     while (!isFull_103032400036(S)) {
18         cout << "input angka ke-" << (i+1) << ": ";
19         cin >> x;
20         push_103032400036(S, x);
21         i++;
22     }
23     cout << "stack sudah penuh!" << endl;
24
25     cout << endl;
26     cout << "hasil penjumlahan elemen dalam stack: "
27         << sumStack_103032400036(S) << endl;
28     return 0;
29 }
30
```

Output

```
"C:\Users\shere\OneDrive\TELKOM UNIVERSITY\SEMESTER 3\STRUKTUR DATA\MODUL 7\ST
Nama : Sheren Aulia Azahra
NIM : 103032400036
Kelas: IT-48-05

input angka ke-1: 1
input angka ke-2: 2
input angka ke-3: 3
input angka ke-4: 4
input angka ke-5: 5
input angka ke-6: 6
input angka ke-7: 7
input angka ke-8: 8
input angka ke-9: 9
input angka ke-10: 10
stack sudah penuh!

hasil penjumlahan elemen dalam stack: 55

Process returned 0 (0x0)   execution time : 11.961 s
Press any key to continue.
```