

Algoritma dan Struktur Data
STACK



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Github : [Farandio/asd-stack: Plain C Stack KTP \(github.com\)](https://github.com/Farandio/asd-stack)

Link :

https://www.tiktok.com/@ectoboy/video/7353641156275752210?is_from_webapp=1&sender_device=pc&web_id=7353637801168340501

1. Source code :

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  #include <string.h>
4
5  #define MAX_SIZE 10
6
7  typedef struct {
8      char name[50];
9      int age;
10 } KTP;
11
12 KTP_stack[MAX_SIZE];
13 int top = -1;
14
15 void push(KTP data);
16 KTP pop();
17 void display();
18 KTP peek();
19 int isEmpty();
20
21 int main() {
22     KTP ktp1 = {"Anies Baswedan", 23};
23     KTP ktp2 = {"Prabowo Subianto", 61};
24     KTP ktp3 = {"Ganjar Pranowo", 16};
25
26     push(ktp1);
27     push(ktp2);
28     push(ktp3);
29
30     KTP peeked_ktp = peek();
31     printf("Peek: \nName: %s, Age: %d\n", peeked_ktp.name, peeked_ktp.age);
32
33     printf("Popped: \n");
34     pop();
35
36     printf("Popped: \n");
37     pop();
38
39     printf("Popped: \n");
40     pop();
41
42     printf("Popped: \n");
43     if (isEmpty()) {
44         printf("Stack is empty.\n");
45     } else {
46         pop();
47     }
48
49     return 0;
50 }
51
52 void push(KTP data) {
53     if (top >= MAX_SIZE - 1) {
54         printf("Stack overflow. Cannot push %s.\n", data.name);
55         return;
56     }
57     stack[++top] = data;
58 }
59
60 KTP pop() {
61     if (isEmpty()) {
62         printf("Stack underflow. Cannot pop.\n");
63         KTP empty_ktp = {"", 0};
64         return empty_ktp;
65     }
66     KTP popped_ktp = stack[top];
67     top--;
68     printf("Name: %s, Age: %d\n", popped_ktp.name, popped_ktp.age);
69     return popped_ktp;
70 }
71
72 KTP peek() {
73     if (isEmpty()) {
74         printf("Stack is empty.\n");
75         KTP empty_ktp = {"", 0};
76         return empty_ktp;
77     }
78     return stack[top];
79 }
80
81 int isEmpty() {
82     return top == -1;
83 }
84

```

Output :

```
PS E:\Documents\ITTS\SEMESTER 2\ALPRO> cd "e:\Documents\ITTS\SEMESTER 2\ALPRO\STACK KTP\" ; if ($?) { gcc stackKtp.c -o stackKtp } ; if ($?) { .\stackKtp }
Peek:
Name: Ganjar Pranowo, Age: 16
Popped:
Name: Ganjar Pranowo, Age: 16
Popped:
Name: Prabowo Subianto, Age: 61
Popped:
Name: Anies Baswedan, Age: 23
Popped:
Stack is empty.
PS E:\Documents\ITTS\SEMESTER 2\ALPRO\STACK KTP>
```