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Header :

```
*stackh x stackcpp x main.cpp x
1  #include <iostream>
2  #ifndef STACK_H_INCLUDED
3  #define STACK_H_INCLUDED
4  #define Top(S) (S).top
5  #define info(S) (S).info
6
7  using namespace std;
8
9  typedef char infotype;
10
11 struct stack {
12     infotype info[14];
13     int top;
14 };
15
16 void createStack(stack &S);
17
18 bool isEmpty(stack S);
19
20 bool isFull(stack S);
21
22 void push(stack &S, infotype x);
23
24 int pop(stack &S);
25
26 void printInfo(stack S);
27
28 #endif // STACK_H_INCLUDED
29
30
```

Stack.cpp

```
*stackh x stackcpp x main.cpp x
1  #include "stack.h"
2
3  using namespace std;
4
5  void createStack(stack &S) {
6      Top(S) = 0;
7  }
8
9  bool isEmpty(stack S) {
10     bool kosong;
11     if (Top(S) == 0) {
12         kosong = true;
13     } else {
14         kosong = false;
15     }
16     return kosong;
17 }
18
19 bool isFull(stack S) {
20     bool penuh;
21     if (Top(S) == 14) {
22         penuh = true;
23     } else {
24         penuh = false;
25     }
26     return penuh;
27 }
28
29 void push(stack &S, infotype x) {
30     if (isFull(S) == false) {
31
```

```
*stackh x stackcpp x main.cpp x
20     bool penuh;
21     if (Top(S) == 14) {
22         penuh = true;
23     } else {
24         penuh = false;
25     }
26     return penuh;
27 }
28
29 void push(stack &S, infotype x) {
30     if (isFull(S) == false) {
31         Top(S) = Top(S) + 1;
32         info(S)[Top(S)] = x;
33     }
34 }
35
36 int pop(stack &S) {
37     infotype x;
38     x = info(S)[Top(S)];
39     Top(S) = Top(S) - 1;
40     return x;
41 }
42
43 void printInfo(stack S) {
44     int i;
45     for (i=Top(S);i>=0;i--) {
46         cout << info(S)[i] << " ";
47     }
48 }
49
```

Main :

```
*stackh x stackcpp x *main.cpp x
1  #include <iostream>
2  #include "stack.h"
3  using namespace std;
4  int main()
5  {
6      stack S;
7      createStack(S);
8      push(S, 'I');
9      push(S, 'R');
10     push(S, 'I');
11     push(S, 'D');
12     push(S, 'A');
13     push(S, 'Y');
14     push(S, 'A');
15     push(S, 'C');
16     push(S, 'R');
17     push(S, 'E');
18     push(S, 'P');
19     printInfo(S);
20     cout << endl;
21     pop(S);
22     pop(S);
23     pop(S);
24     pop(S);
25     pop(S);
26     pop(S);
27     pop(S);
28     printInfo(S);
29 }
30
```