

```
1  #include <stdio.h>
2  #include <string.h>
3  #include <ctype.h>
4  char keywords[][10] = {"int","main","float","char","printf","return","void","while",
    ,"for","if"};
5  char operators[] = "+-*/=%";
6  char specialSymbols[] = "(){};,\\"";
7  int isKeyword(char *word) {
8      for (int i = 0; i < 10; i++) {
9          if (strcmp(word, keywords[i]) == 0)
10             return 1;
11     }
12     return 0;
13 }
14 int isOperator(char ch) {
15     for (int i = 0; operators[i] != '\0'; i++) {
16         if (ch == operators[i]) return 1;
17     }
18     return 0;
19 }
20 int isSpecialSymbol(char ch) {
21     for (int i = 0; specialSymbols[i] != '\0'; i++) {
22         if (ch == specialSymbols[i]) return 1;
23     }
24     return 0;
25 }
```

```
26 int main() {
27     char str[1000];
28     char word[50];
29     int i = 0, j = 0;
30     printf("Enter code (end with ~):\n");
31     scanf("%[^~]", str);
32     while (str[i] != '\0') {
33         if (isalnum(str[i])) {
34             word[j++] = str[i];
35         } else {
36             if (j != 0) {
37                 word[j] = '\0';
38                 if (isKeyword(word))
39                     printf("%s is keyword\n", word);
40                 else
41                     printf("%s is identifier\n", word);
42                 j = 0;
43             }
44
45             if (isOperator(str[i]))
46                 printf("%c is operator\n", str[i]);
47             else if (isSpecialSymbol(str[i]))
48                 printf("%c is special symbol\n", str[i]);
49         }
50         i++;
51     }
52     return 0;
53 }
```

Enter code (end with ~):

```
main() {  
    int a, b, c;  
    c = b + c;  
    printf("%d", c);  
}  
~
```

```
main is keyword
( is special symbol
) is special symbol
{ is special symbol
int is keyword
a is identifier
, is special symbol
b is identifier
, is special symbol
c is identifier
; is special symbol
c is identifier
= is operator
b is identifier
+ is operator
c is identifier
; is special symbol
printf is keyword
( is special symbol
" is special symbol
% is operator
d is identifier
" is special symbol
, is special symbol
c is identifier
) is special symbol
; is special symbol
} is special symbol
```

=== Code Execution Successful ===