

Objective: Write a C program to check whether a given identifier is valid or not.

Resources: Online GDB, gcc/g++

Program logic:

Read the given input string.  
check the initial character of the string whether it is numerical or any special character except '\_', then print it is not a valid identifier. otherwise print it is a valid identifier if remaining characters of string doesn't contains any special characters except '\_'

Program:

```
#include <stdio.h>
#include <conio.h>
#include <ctype.h>

void main() {
    char s[10];
    int flag, i = 1;
    printf("\n Enter an identifier: ");
    gets(s);
    if (isalpha(s[0]) || s[0] == '_')
        flag = 1;
    else
        printf("\n Not a valid identifier");
    while (s[i] != '\0') {
        if (!isdigit(s[i]) && !isalpha(s[i]) && s[i] != '_')
        {
            flag = 0;
            break;
        }
    }
}
```

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```
        i++ ;  
    }  
    if ( flag == 1 )  
        printf ( "\n valid Identifier" );  
    else  
        printf ( "\n Not a valid Identifier" );  
}
```

### Output :

Case I  $\Rightarrow$  Enter an identifier : abhishek1  
valid identifier .

Case II  $\Rightarrow$  Enter an identifier : abhi@shek  
Not a valid identifier .

### Discussion :

For the above problem statement, My approach is simple. In order to qualify as an identifier as a valid identifier the string must satisfy the following-

- It must start with either underscore ( \_ ) or any of the characters from the ranges [ 'a', 'z' ] & [ 'A', 'Z' ]
- There must not be any white space in the string
- All the subsequent characters after the first character must not consist of any special characters like \$ , # , % etc .

Traverse the string character by character and check whether all the requirements are met for it to be a valid identifier . ie  $\rightarrow$  First character can only be either '\_' or an alphabet and the rest of the characters must neither be a white space or any special character .

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