

Keywords in C

A keyword is a **reserved word**. You cannot use it as a variable name, constant name, etc. There are only 32 reserved words (keywords) in the C language.

A list of 32 keywords in the c language is given below:

auto	break	case	char	const	continue	default
double	else	enum	extern	float	for	goto
int	long	register	return	short	signed	sizeof
struct	switch	typedef	union	unsigned	void	volatile

We will learn about all the C language keywords later.

C Identifiers

C identifiers represent the name in the C program, for example, variables, functions, arrays, structures, unions, labels, etc. An identifier can be composed of letters such as uppercase, lowercase letters, underscore, digits, but the starting letter should be either an alphabet or an underscore. If the identifier is not used in the external linkage, then it is called as an internal identifier. If the identifier is used in the external linkage, then it is called as an external identifier.

We can say that an identifier is a collection of alphanumeric characters that begins either with an alphabetical character or an underscore, which are used to represent various programming elements such as variables, functions, arrays, structures, unions, labels, etc. There are 52 alphabetical characters (uppercase and lowercase), underscore character, and ten numerical digits (0-9) that represent the identifiers. There is a total of 63 alphanumeric characters that represent the identifiers.

Rules for constructing C identifiers

- The first character of an identifier should be either an alphabet or an underscore, and then it can be followed by any of the character, digit, or underscore.
- It should not begin with any numerical digit.

- In identifiers, both uppercase and lowercase letters are distinct. Therefore, we can say that identifiers are case sensitive.
- Commas or blank spaces cannot be specified within an identifier.
- Keywords cannot be represented as an identifier.
- The length of the identifiers should not be more than 31 characters.
- Identifiers should be written in such a way that it is meaningful, short, and easy to read.

Example of valid identifiers

1. total, sum, average, _m_, sum_1, etc.

Example of invalid identifiers

1. 2sum (starts with a numerical digit)
2. **int** (reserved word)
3. **char** (reserved word)
4. m+n (special character, i.e., '+')

Types of identifiers

- Internal identifier
- External identifier

Internal Identifier

If the identifier is not used in the external linkage, then it is known as an internal identifier. The internal identifiers can be local variables.

External Identifier

If the identifier is used in the external linkage, then it is known as an external identifier. The external identifiers can be function names, global variables.

Differences between Keyword and Identifier

Keyword

Identifier

Keyword is a pre-defined word.	The identifier is a user-defined word
It must be written in a lowercase letter.	It can be written in both lowercase and uppercase letters.
Its meaning is pre-defined in the C compiler.	Its meaning is not defined in the C compiler.
It is a combination of alphabetical characters.	It is a combination of alphanumeric characters.
It does not contain the underscore character.	It can contain the underscore character.

Let's understand through an example.

```
1. int main()
2. {
3.     int a=10;
4.     int A=20;
5.     printf("Value of a is : %d",a);
6.     printf("\nValue of A is :%d",A);
7.     return 0;
8. }
```

Output

```
Value of a is : 10
Value of A is :20
```

The above output shows that the values of both the variables, 'a' and 'A' are different. Therefore, we conclude that the identifiers are case sensitive.

