

C under Linux

Dr. Naeem Odat



Department of Computer and Communications Engineering
C keywords and data types

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C keywords

Keywords are predefined, reserved words used in programming that have special meanings to the compiler. Keywords are part of the syntax and they cannot be used as an identifier.

ANSI C keywords

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

Identifiers

An identifier is a name given to some entity such as a variable, function, structure, etc.

Rules

- ▶ Cannot be a one of the keywords.
- ▶ Contains any letter, digit, or/and underscore
- ▶ First character should be a letter or underscore.
- ▶ The length is preferred to be less than 31.

Data types

Type	Size (bytes)	Format Specifier	Range
int	at least 2, usually 4	%d, %i	-2^{15} to $2^{15} - 1$ or -2^{31} to $2^{31} - 1$
char	1	%c	-128 to 127
float	4	%f	1.2E-38 to 3.4E+38
double	8	%lf	2.3E-308 to 1.7E+308
short int	2 usually	%hd	-32,768 to 32,767
unsigned int	at least 2, usually 4	%u	0 to 65,535 or 0 to 4,294,967,295
long int	at least 4, usually 8	%ld, %li	-9223372036854775808 to 9223372036854775807
long long int	at least 8	%lld, %lli	
unsigned long int	at least 4	%lu	0 to 18446744073709551615
unsigned long long int	at least 8	%llu	
unsigned char	1	%c	0 to 255
long double	at least 10, usually 12 or 16	%Lf	3.4E-4932 to 1.1E+4932

C output and input

C output

printf() is the main output function in C.

```
#include <stdio.h>
int main(){
    // Displays the string inside quotations
    printf("C Programming");
    return 0;
}
```

C output and input

C input

scanf() is the common input function in C.

```
#include <stdio.h>
int main(){
    int testInteger;
    printf("Enter an integer: ");
    scanf("%d", &testInteger);
    printf("Number = %d",testInteger);
    return 0;
}
```