

printf examples

The following examples show the output results for various format strings, data types, and values. The output is depicted with enclosing vertical bars to show the padding and justification, if any.

Integer examples

```
short    s = 1235;
int      i = 12345;
long     l = 12345678;
unsigned u = 65535;
```

format	output
%d\\%d	12345 -12345
%8d %8d	12345 -12345
%-8d %-8d	12345 -12345
%+8d %+8d	+12345 -12345
%-+8d %-+8d	+12345 -12345
%08d %08d	00012345 -0012345
% 08d % 08d	0012345 -0012345
%+08d %+08d	+0012345 -0012345
%10.8d %10.8d	00012345 -00012345

```
wid = 14;
..."|*d|\\n", wid, i );      |          12345|
wid = 9;
..."|*d|\\n", wid, i );      |   12345|

"|%14ld|%14ld|", l, -l      | 12345678|...
"|%10hd|,%10hd", s, -s      | 1235|...
"|%u|%d|", u, u             |65535|-1|

|%3ld|                       |12345678|
```

Float examples

```
float f = 5.555555;
```

%f	5.555555
%.2f	5.56
%10f	5.555555
%10.2f	5.56
%010.2f	0000005.56
%-10f	5.555555
%+.2f	+5.56

```
double ff = 1234000000.0;
```

%.3e	1.234e+09
%E	1.234000E+09
%.3E	1.234E+09
%12.5e	1.234000e+09
%g	1.234e+09
%g	1234
%12g	1.234e+09

1.1

%.4g	1.1
%#.4g	1.100
%.10g	3.141592654

Character and string examples

```
char c = 'A';
```

format	prints as
%c	A
%4c	A
%-4c	A

```
|%04c|      |  A|
```

```
char str[] = "This is all there is."
```

```
format      prints as
|%s|        |This is all there is.|
|%30s|     |          This is all there is.|
|%5s|       |This is all there is.|
|%.5s|      |This |
|%-30s|     |This is all there is.      |
|%10.2s|    |          Th|
```

```
int Itchy;
...
scanf( "%d", &Itchy );

float Fred:
...
scanf( "%f", &Fred );
```

Date fields input using type and width only

```
int mo, day, yr;
...
scanf( "%2d%2d%2d", &mo, &day, %yr );

122559    stores 12, 25, and 59
12 25 59  stores 12, 25 and 59
2 4 96    stores 2, 4, and 96
024 96    stores 2, 4 and 96
2/3/95    error, only stores 2
```

Date fields input using type, width and separator

```
scanf( "%2d/%2d/%2d", &mo, &day, &yr );
```

```
12/25/95  stores 12, 25 and 95
1/2/95    stores 1, 2 and 95
9 /15/75  error, only stores 9
9/ 4/75   stores 9, 4 and 75
02-23-95  error, only stores 2
```

Float data varieties input

```
float Fagan;
...
scanf( "%f", &Fagan );
```

```
valid values  1.2
               -2.3e5
               2000
               7.5e-66
               7.5e-15
```

Types f, g, G, e and E all behave the same

Must use *l* for *double* and *L* for *long double*

```
double Denny;
long double Loddy;
...
scanf( "%lf%Lf", &Denny, &Loddy );
```

***scanf* cautions**

- Compiler cannot and does not check that format types match arguments. Errors may result if wrong type spec is used to input a variable.

```
int a, b, c; /* all ints */
scanf( "%d%f%s", &a, &b, &c );
```