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Quick Reference v. 2009.05.06

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Reserved Words

asm, auto, bool, break, case, catch, char, class, const, const_cast, continue, default, delete, do, double, dynamic_cast, else, enum, explicit, extern, false, float, for, friend, goto, if, inline, int, long, mutable, namespace, new, operator, private, protected, public, register, reinterpret_cast, return, short, signed, sizeof, static, static_cast, struct, switch, template, this, throw, true, try, typedef, typeid, typename, union, unsigned, using, virtual, void, volatile, wchar_t

Data Types

Type	Size	Range
char	1	signed -128 to 127 unsigned 0 to 255
short	2	signed -32,768 to 32,767 unsigned 0 to 65,535
long	4	signed -2,147,483,648 to 2,147,483,647 unsigned 0 to 4,294,967,295
int	-	depends on system -
float	4	+/- 3.4E38 (7 digits)
double	8	+/- 1.7E308 (15 digits)
bool	1	true or false

Arithmetic Operators

Symbol	Precedence	Operation
+	2	Addition
-	2	Subtraction
*	3	Multiplication
/	3	Division
%	3	Modulo
-	5	Negate
++	5	Increment
--	5	Decrement

Comparison Operators

Symbol	Operation
<	Less than
>	Greater than
<=	Less than or Equal to
>=	Greater than or Equal to
==	Equal to
!=	Not Equal

Logical Operators

Symbol	Operation
&&	AND
||	OR
~	NOT

Basic I/O

```
cout << expr << expr << ... ;
cin >> var >> var >> ... ;
```

Selections

```
if (condition) {
    statement;
    ...
}

if (condition) {
    statement;
    ...
} else {
    statement;
    ...
}

if (condition) {
    statement;
    ...
} else if (condition) {
    statement;
    ...
} else if (condition) {
    statement;
    ...
} else {
    statement;
    ...
}
```

```
switch (expression) {
    case constant: statement;
        ...
        break;
    case constant: statement;
        ...
        break;
    default: statement;
        ...
}
```

Conditional Expression

```
condition ? expr_1 : expr_2
```

Iterations

```
while (condition) {
    statement;
    ...
}

do {
    statement;
    ...
} while (condition);

for (init; condition; update;) {
    statement;
    ...
}
```

Function Definition

```
type func_name (arg, arg, ...) {
    statement;
    ...
}
```

Arguments

- By value type var
- By reference type &var
- By constant reference const type &var

Array Declaration

```
type array_name[size][size] ..;
```

C++ Libraries

iostream Standard I/O, e.g., cin cout
 iomanip I/O manipulation, e.g., setw()
 fstream Files
 cstdlib Utilities, e.g, rand() srand()
 cmath Maths, e.g., sqrt() sin() pow()
 ctime Date and Time, e.g., time()
 string String manipulation, e.g., substr()

ASCII Chart

Dec	Char	Dec	Char	Dec	Char	Dec	Char
32	SP	56	8	80	P	104	h
33	!	57	9	81	Q	105	i
34	"	58	:	82	R	106	j
35	#	59	;	83	S	107	k
36	\$	60	<	84	T	108	l
37	%	61	=	85	U	109	m
38	&	62	>	86	V	110	n
39	'	63	?	87	W	111	o
40	(	64	@	88	X	112	p
41	)	65	A	89	Y	113	q
42	*	66	B	90	Z	114	r
43	+	67	C	91	[	115	s
44	,	68	D	92	\	117	t
45	-	69	E	93	]	117	u
46	.	70	F	94	^	118	v
47	/	71	G	95	_	119	w
48	0	72	H	96	`	120	x
49	1	73	I	97	a	121	y
50	2	74	J	98	b	122	z
51	3	75	K	99	c	123	{
52	4	76	L	100	d	124	|
53	5	77	M	101	e	125	}
54	6	78	N	102	f	126	~
55	7	79	O	103	g	127	DEL