

Must-Know

int	-2,147,483,648 to +1,147,483,647
float	4bytes, contain 1 digit/decimal, $\pm 10^{38}$, 7 digits precision, f, illegal floats: 6.2.2f, 6.-3f, 6.2
double	8bytes, $\pm 10^{308}$, 14 digit precision
variable	upper/lowercase differ, reflects data stored, given to memory location
destructive read	Reference
destructive write	Write Over
types of c statements	declarations/arithmetic instructions/control instructions
Order of Operations (L->R)	!, *, / %, +, -, <, >, <=, >=, ==, !=, &&, , =
Functions	AND (&&), OR (), NOT (!)
Quad Formula	$(-b \pm \sqrt{(b^2 - 4ac)}) / (2a)$
While Loop	executed 0 or more times. Does test, then body
Do-While Loop	executed 1+ times. Does body, then test
absolute value	abs(#)

Formatting Printf

```
printf("%6d", 123);
printf("%03d", 5);
printf("%7.2f ", 6.789);
```

OUTPUTS WITHOUT SPACES

```
output: __ 1 2 3
output: 005
output: __ 6 . 7 9
```

Do While Loop (b)

```
i=5;
do
{
printf(i);
i++;
}
while( i>3);
```

Executed 1+ times. Output: 5

While Loop (b)

```
k=7;
while( k<5)
{
printf ("%d ", k);
k++;
}
```

Executed 0+ times. Output: (nothing)

Switch-Case

```
int dc;
scanf( "%lf", dc);
switch(dc) //can only switch a non double/non float
{
case 0 : printf ("switch case statement 1");
break;
case 1 : printf ("switch case statement 2");
break;
default; //do default case, below this line
printf ("D EFAULT CASE");
break;
}
```

Logical If

```
If(logical expression)
{
//block of code
}
else
{
//statement if false
}
```

For Loop (a)

```
for(i=0; i<10; i++) //INIT, TEST, LOOP ALTER
{
printf ("%d ", i); //BODY
}
```

Rewrite of While Loop (a)

While Loop (a)

```
i=0; //INIT
while( i=0); //TEST
{
printf ("%d ", i); //BODY
i++; //LOOP ALTER
}
```

Rewrite of For Loop (a)

Pyramid Code Snippet

```
for(r=0; r<7; r++) //outer: 7 rows
{
for(s= 0; s < r; s++) //controls spaces
{
printf (" ");
}
for(a= 0; a < __ * r; a++) //MATH
{
printf ("*"); //controls stars
}
```



By codebrent2

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Pyramid Math

r	# stars
---	---------

0	11
---	----

1	9
---	---

1) Find m: $m=(y_2-y_1)/(x_2-x_1)$

2) Find equation: $b=y=mx$

3) Use equation in blank in code

*y=ANSWER



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