

Computer Science & Engineering 150A

Problem Solving Using Computers – Laboratory

Lecture 02 – Programs and Variables

Derrick Stolee

Spring 2009

```
#include <stdio.h>
/* this is a comment! */
int main(void)
{
    printf("This lab is so cool!\n");
}
```

- Save in `filename.c`
- Compile:

```
gcc -o programname filename.c
```

- Run:

```
./programname
```

- `int variablename = number;`
- Stores integer values, 0, 1, -1, 10242.
- Takes 4 bytes.

- `float variablename = number.decmials;`
- Stores decimal values, 0.0, 1.234, -1234.5.
- Takes 4 bytes.

- `double variablename = number.decimals;`
- Stores decimal values with higher precision, 0.0, 1.2345678, -1234.5678.
- Takes 8 bytes.

- `char variablename = 'c';`
- Stores letters, 'A', 'b', '0', '\n', '\0'.
- Takes 1 byte.

- `printf("string", parameters, ...);`
- Outputs "string" with a few extras... (%)

Placeholder	Variable Type
<code>%d</code>	<code>int</code>
<code>%f</code>	<code>float</code>
<code>%lf</code>	<code>double</code>
<code>%c</code>	<code>char</code>
<code>:</code>	<code>:</code>

```
printf("I've been in college for %d years.\n",6);  
printf("My puppy weighs %f pounds.\n", 23.75 );  
printf("You can all get %c's in this class!\n", 'A' );
```

Var Name	Stores	Size	Placeholder
int	Integers	4 bytes	%d
float	Decimals	4 bytes	%f
double	Decimals (better)	8 bytes	%lf
char	Letters	1 byte	%c

```
#include <stdio.h>
int main(void) {
    ...
}
```

```
gcc -o program file.c
```