

Comments Help Human Readers (Including the Author!)

Good programs have many comments...

```
int
main ()
{
    int answer = 42; // the Answer!

    printf ("The answer is %d.\n", answer);

    /* Our work here is done.
       Let's get out of here! */
    return 0;
}
```

One-line comments start with // .

This type can not.

Longer comments start with /* and end with */ .

This type of comment can span more than one line.

So Far, We Have Four Pieces of C Syntax

a few elements of **C syntax***:

- **main**: the function executed when a program starts
- **variable declarations** specify symbolic names and data types
- **statements** tell the computer what to do
- **comments** help humans to understand the program

* A computer language's **syntax** specifies the rules that one must follow to write a valid program in that language.

Pitfall: "Functions" in Programs are not Functions in Math

Be careful about terminology:

- **main** is a "function"
- **in the syntactic sense of the C language** (a set of variable declarations and a sequence of statements ending with a **return** statement)
- **but not necessarily in the mathematical sense.**

A "Function" is a Block of Code that Returns a Value

For example,

- although **main** does return an integer,
- we can **write a program that returns a random integer from 0 to 255.**

Given the same inputs,

- the value returned is **not unique**, and
- the value returned is **not reproducible** (running the program two times can give different answers).
- **Both properties are required for a mathematical function.**