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12.010 Computational Methods of Scientific Programming
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12.010 Lecture 08 Exercises.

In this section, we test and evaluate some of the basic C concepts.

Exercise 1.

Start with program `hello.c`. This program simply performs IO to print out a character string and the standard values of various numerical parameters from the C library.

To compile the program use the command

```
cc hello.c
```

To run the program use

```
a.out
```

Now edit the program to stop the header file `math.h` from being included e.g.

```
/* #include <math.h> */
```

and recompile the code. What happens?

Look in the `math.h` header file (`/usr/include/math.h`). Try printing out some of the other mathematical constants. Printout value for five different constants. What values do they have?

Exercise 2.

When program `area.c` is invoked as follows

```
a.out 2.3
```

it is supposed to calculate the area of a circle with radius 2.3. However, when you compile and run the program it will print out 0. as the area of the circle. What is wrong how can it be fixed?

Secondly, modify `area.c` so that it can take if several radii and write one line of out for each value stating the radius and the area of the circle with that area.