Newton's Law

Newton's law states that the force, F, between two bodies of masses M_1 and M_2 is given by:

$$F = k(\frac{M_1 M_2}{d^2}),$$

in which k is the gravitational constant and d is the distance between the bodies. The value of k is approximately $6.67 \times 10^{-8} dyn.cm^2/g^2$. Write a program that prompts the user to input the masses of the bodies and the distance between the bodies. The program then outputs the force between the bodies.

Use the command `script` to capture your interaction compiling and running the program as shown below:

```
drb@nest:~/cs1b/hw/01$ script hw01.scr
Script started, file is hw01.scr
drb@nest:~/cs1b/hw/01$ date
...
drb@nest:~/cs1b/hw/01$ ls -l
...
drb@nest:~/cs1b/hw/01$ g++ hw01.cpp -o hw01
drb@nest:~/cs1b/hw/01$ ls -l
...
drb@nest:~/cs1b/hw/01$ ./hw01
// interact with the program
drb@nest:~/cs1b/hw/01$ ls -l
...
drb@nest:~/cs1b/hw/01$ exit
Script done, file is hw01.scr
drb@nest:~/cs1b/hw/01$ tar cf hw01.tar hw01.h hw01.cpp hw01.scr
```

Submit the `tar` package file `hw01.tar` to canvas by the due date on top of this page.