Exercises for Day 4

Exercise 1. Using a `for` loop, print a table of the cubes of integers to a text file. Have the integers go from 1 to 10. When you are done, your table should look like the one below on the right.

Notice the following:

- The numbers have no decimal places
- The numbers form nice columns under the headings
- The ones digits of all the entries in a column line up

```
Cubes of Integers
Integer     Cube
   1          1
   2          8
   3         27
   4         64
   5        125
   6        216
   7        343
   8        512
   9        729
  10       1000
```

Exercise 2. Write a script to convert the temperature range from -40°C to 60°C into the Fahrenheit scale, at 4°C increments, using the conversion equation

$$T(°\mathrm{F}) = 1.8 \cdot T(°\mathrm{C}) + 32$$

Print the results to a text file using the following format:

```
Temp (deg C)       Temp (deg F)
------------       ------------
     -40                -40.0
     -36                -32.8
     -32                -25.6
```

Make sure your headings and numbers line up properly.

Exercise 3. Start this problem from your Day 3 Exercise 2 program. By adding a loop, print to a text file a table containing the two-dimensional rocket trajectory. Use a start time of 0 seconds, a time increment of 0.5 seconds, and an end time of 12 seconds. The beginning of the table should look like this:

```
                Rocket Trajectory
Time(s)    x-position(m)    y-position(m)    y-velocity(m/s)
  0.0          0.0              0.0              53.6
  0.5         22.5             25.6              48.7
  1.0         45.0             48.7              43.8
```

Once again, make sure that your columns are nicely aligned.

After you print this table out, underline (by hand) the data row that is closest to the maximum altitude.