

NBody Simulation

Printing the Universe

When the simulation is over, i.e. when you've reached time T , you should print out the final state of the universe in the same format as the input, e.g.:

```
5
2.50e11
1.4925e+11 -1.0467e+10 2.0872e+03 2.9723e+04 5.9740e+24 earth.gif
-1.1055e+11 -1.9868e+11 2.1060e+04 -1.1827e+04 6.4190e+23 mars.gif
-1.1708e+10 -5.7384e+10 4.6276e+04 -9.9541e+03 3.3020e+23 mercury.gif
2.1709e+05 3.0029e+07 4.5087e-02 5.1823e-02 1.9890e+30 sun.gif
6.9283e+10 8.2658e+10 -2.6894e+04 2.2585e+04 4.8690e+24 venus.gif
```

You are welcome to try to figure this out on your own, but if you'd prefer not to, the solution is right below:

```
StdOut.printf("%d\n", bodies.length);
StdOut.printf("%.2e\n", radius);
for (int i = 0; i < bodies.length; i++) {
    StdOut.printf("%11.4e %11.4e %11.4e %11.4e %11.4e %12s\n",
        bodies[i].xxPos, bodies[i].yyPos, bodies[i].xxVel,
        bodies[i].yyVel, bodies[i].mass, bodies[i].imgFileName);
}
```

Here, **bodies** is our filler variable name for reading in the bodies, as per the third bullet under **Collecting All Needed Input**. You may have a different variable name.

This isn't all that exciting (which is why we've provided a solution), but we'll need this method to work correctly to autograde your assignment.