Small Example Data for Homework 4

5
15778000
25000
1.9890e+30 0.0000e+00 0.0000e+00 0.0000e+00 0.0000e+00
3.3020e+23 5.7900e+10 0.0000e+00 0.0000e+00 4.7900e+04
4.8690e+24 1.0820e+11 0.0000e+00 0.0000e+00 3.5000e+04
5.9740e+24 1.4960e+11 0.0000e+00 0.0000e+00 2.9800e+04
6.4190e+23 2.2790e+11 0.0000e+00 0.0000e+00 2.4100e+04

Reading the Data

```
int main(int argc, char * argv[]) {
        FILE *f;

        f = fopen(argv[1], "r");

        int num, totalTime, deltaTime;
        int i;

        fscanf(f, "%d", &num);

        double *mass = (double *) malloc(sizeof(double) * num);
        double *positionX = (double *) malloc(sizeof(double) * num);
        double *positionY = (double *) malloc(sizeof(double) * num);

        double *velocityX = (double *) malloc(sizeof(double) * num);
        double *velocityY = (double *) malloc(sizeof(double) * num);
```

Reading/Printing the Data

```
    fscanf(f, "%d", &totalTime);
    fscanf(f, "%d", &deltaTime);
    for (i = 0; i < num; i++) {
        fscanf(f, "%lf %lf %lf %lf %lf", &mass[i], &positionX[i], &positionY[i],
                                                    &velocityX[i], &velocityY[i]);
    }

    for (i = 0; i < num; i++) {
        printf("%e %e %e %e %e\n", mass[i], positionX[i], positionY[i], velocityX[i], velocityY[i]);
    }
}
```