```
 1: #include "Body.hpp"
 2: #include <vector>
 3:
 4: int main(int argc, char* argv[])
 5: {
 6:   sf::Image backdrop;
 7:
 8:   if(!backdrop.loadFromFile("starfield.jpg"))
 9:     {
10:       return -1;
11:     }
12:
13:   //Set up the universe
14:   std::vector<Body*> v_bodies;
15:   int number_of_bodies;
16:   double universe_size;
17:   sf::Vector2u size = backdrop.getSize();
18:
19:   std::cin >> number_of_bodies;
20:   std::cin >> universe_size;
21:
22:
23:   //Create the celestial bodies and put them into the vector
24:   for(int i = 0; i < number_of_bodies; i++)
25:     {
26:       Body* body = new Body();
27:       v_bodies.push_back(body);
28:     }
29:
30:   for(int i = 0; i < number_of_bodies; i++)
31:     {
32:       std::cin >> (*(v_bodies.at(i)));
33:       v_bodies.at(i)->set_radius(universe_size);
34:       v_bodies.at(i)->set_window(size.x);
35:       v_bodies.at(i)->update_pixel_pos();
36:     }
37:
38:   sf::Texture texture_drop;
39:   texture_drop.loadFromImage(backdrop);
40:
41:   sf::Sprite sprite_drop;
42:   sprite_drop.setTexture(texture_drop);
43:
44:
45:   sf::RenderWindow window(sf::VideoMode(size.x, size.y),
46:                           "NBody Program");
47:
48:   while(window.isOpen())
49:     {
50:       sf::Event event;
51:       while(window.pollEvent(event))
52:         {
53:           if(event.type == sf::Event::Closed)
54:             {
55:               window.close();
56:             }
57:         }
58:
59:       window.clear();
60:       window.draw(sprite_drop);
61:       for(int i = 0; i < number_of_bodies; i++)
```

```
62:          {
63:            window.draw(*(v_bodies.at(i)));
64:          }
65:        window.display();
66:      }
67:
68:   return 0;
69: }
```