```
 1: #ifndef CelestialBody_H_
 2: #define CelestialBody_H_
 3:
 4: #include <SFML/System.hpp>
 5: #include <SFML/Window.hpp>
 6: #include <SFML/Graphics.hpp>
 7: #include <string>
 8: #include <cstdlib>
 9: #include <iostream>
10:
11: using namespace std;
12:
13: class CelestialBody : public sf::Drawable
14: {
15: public:
16:
17: CelestialBody(double val);
18: void createImage();
19:
20: CelestialBody(double posX, double posY, double Xvel, double Yvel, double
Imass, string _filename);
21: friend istream& operator>>(istream& instream, CelestialBody& planet);
22: friend ostream& operator<<(ostream& out, CelestialBody planet);
23:
24: void setPos(sf::Vector2f Pos);
25: void setVel(sf::Vector2f Vel);
26: void setImagePos();
27: double getXPos();
28: double getYPos();
29: double getMass();
30: double getXVel();
31: double getYVel();
32:
33: private:
34:
35: void draw(sf::RenderTarget& target, sf::RenderStates states) const;
36: double XPosition;
37: double YPosition;
38: double XVelocity;
39: double YVelocity;
40: double Mass;
41: double scale;
42: string filename;
43: sf::Image image;
44: sf::Texture texture;
45: sf::Sprite sprite;
46: };
47:
48:
49: istream& operator>>(istream& instream, CelestialBody& planet);
50: ostream& operator<<(ostream& out, CelestialBody planet);
51:
52: #endif
```