To run the game:

Open in IntelliJ. Run the Game Class.

How to play the game:

* Press the up arrow the thrust
* Press the right and left arrow keys to turn
* Press the spacebar to fire
* Shoot asteroids and enemy ships to score points
* Avoid being hit – taking hits when your shield is down will cause you to lose a life

Design Choices:

* I chose to have the enemy ships fire asteroids as to give the player the choice to kill the ship early or leave it alive to produce more asteroid to shoot to increase score but at increased risk of being hit.
* I chose to have the planet have a radius of 100 as it makes a large area of the play space untraversable to the player.
* I chose to have asteroids not collide the planet so it would not be theoretically possible for the player to clear a level without shooting any asteroids.
* I set the health of the player shield to be 9. This is because when collisions occur about three ticks elapse before the asteroid disappears so the health being lets the player take 3 hits before the shield is down
* The player ship changes colour based on the shield health (blue, orange, red and grey when depleted)

Additional features:

* I added a rechargeable player shield that can take 3 hits before being depleted
* I added a stationary planet
* I added high scores that displayed from a file on the game over screen

Self-appraisal:

On the whole, I did not find the project to be too difficult. Adding the planet was very easy as it is basically a big stationary asteroid. The shield as was also easy to implement by altering the ships hit method and the draw and update methods to display the shield and to handle its recharge. The high scores where easy to implement as it was simple file handling with score being drawn to the screen. The enemy ship was trickier, the random motion was based on the asteroids with the addition of using the Bullet classes lifetime to create a thrust period after which the ship would fire and change direction. The tricky part was getting it to fire. I couldn’t get to fire bullets, so I made it fire asteroids which is functionally similar.