

Osto Vargas  
Professor Matthews  
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## Final Program - Space Invaders

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### ***Documentation***

#### **Game:**

The ***Game*** class is an extension of a ***Canvas*** and implementation of ***Runnable***. The ***Game*** class has a *run()* that handles all updates and renders for all graphical elements of the game from the ***Player*** to an array of nine ***AlienShip*** enemies. It has a ***JFrame*** which contains all graphical properties. The *tick()* invokes all *tick()* within the ***Player*** and ***AlienShip*** objects to update location and attack status. The *render()* method invokes the *render()* method of those object which is *super()* from the ***Player*** and ***AlienShip*** objects superclasses, ***SpaceShip*** which also extends ***Entity***. Collision detection is handled in a polymorphic fashion, an opposing object is passed off to the collision method, which is passed again to the object instance of a ***Missile*** object that returns a boolean value.

The game itself is not very exciting, rather a raw implementation of program requirements. There is much room for improvement. Only one array of ***AlienShip*** objects have been implemented. There are loose ends in the code that make way for a two dimensional array of ***AlienShip*** objects that are restricted from attacking if it is behind another ***AlienShip*** object. Although not immediately obvious, it was planned ahead of time but omitted due to time constraints.

It is very simple, try to beat all aliens, if you win you get the highest score.