Runes:

To implement runes in the system, creating an entire class for it would have been wasteful. As runes only function as a currency, a rune as an object would not have any attributes to hold and if carried by an actor, each rune carried would be its own object. Therefore, runes are represented as an attribute of the actor as all objects that extend it can carry runes. Additionally, to calculate the random number of runes possessed by enemies, a class with a static method is used. This follows the DRY principle because the implementation makes it so that the method is only defined once as well as making it available to other methods for purposes such as calculating probability.

Trader:

The trader and player class are implemented by inheriting from the actor class and both follow the Dependency Inversion Principle as these concrete classes depend on the abstract class weapons. This allows the player and trader to have only one array for holding various objects that extend the weapon class which also adheres to the Open-closed principle as added a new weapon class will not require a new array for the actors to store the weapon. Additionally, the buying and selling price of every weapon is contained in their own enums. This is an ideal implementation as these values are constant for their respective classes and it removes the need for magic numbers.

Environments:

To implement the environments, each environment class inherits from the ground class and follow the Dependency Inversion Principle as these concrete classes depend on the abstract class enemy. This makes it so that each environment can spawn enemies of different types if the code is ever extended to include new enemies that have the same spawn environments which also fulfills the Open-closed principle as the new arrays do not have to be created. This implementation however does allow enemies of different types to be spawned in locations they do not belong, which can be solved by validation through checking enemy type.

More enemies:

[Same info as enemy’s section]