

## Programming Assignment #4

### Role Playing Game

You are part of a team working on a new role playing game. Your part is to design and create the classes for the hierarchy of game objects (such as trees, walls, zombies, aliens, and good guys. *You are to draw a complete class diagram that shows the entire hierarchy of your classes.* For each class, come up with suitable methods based on the type of object. You also are to create a program called Assignment4 that tests the objects in a new role playing game.

You are to design a class to represent each type of game object. All objects should have fields for the following data:

- name
- location

The stationary objects (rooms, trees and walls) are game objects and should have additional fields for the following data:

- damagePoints

The collectable objects (coins, weapons, and health potions) are game objects and should have additional fields for the following data:

- value
- type (an enum with choices such COINS, HEALTH\_POTION, AXE, SWORD, MACE, MAGIC\_WAND, BOMB)

The moveable objects are game objects and should have additional fields for the following data:

- health
- direction
- speed

The bad guy objects (zombies and aliens) are moveable objects and should have additional fields for the following data:

- meanFactor
- defeatPoints

The good guy objects (warriors, wizards, and hobbits) are moveable objects and should have additional fields for the following data:

- strength
- intelligence
- backPack (ArrayList of collectable objects)

The main program (aka test program) should build an ArrayList of stationary objects and an ArrayList of moveable objects. It should build an ArrayList of collectable objects for each good guy's backpack. The main program should go through all objects in each ArrayList and call their common methods (e.g., display(), move(), fight(), etc.).

**What to turn in**

UML Class Diagram

Source code of all classes created.

Screen shot of program running.