CS 175 | Scripting Languages
Programming Assignment 2

The goal of this assignment is to make sure that you understand the basics behind the chapters covered so far. The important thing, before you start this assignment, is to understand class property attributes and inheritance really well. The estimated time for completion is about six hours.

In this assignment, you are given a folder called "StarEscape" that contains "**StarEscape.fla**" (that creates an instance of the level class and contains four symbols as art assets to use) and multiple ".as" files representing the classes that you need to implement. You have to create all required classes with their attributes in order to get the desired behavior. A "**swf**" file will be given to show the final desired result.

Details

Star Escape Details:

The game is very easy:
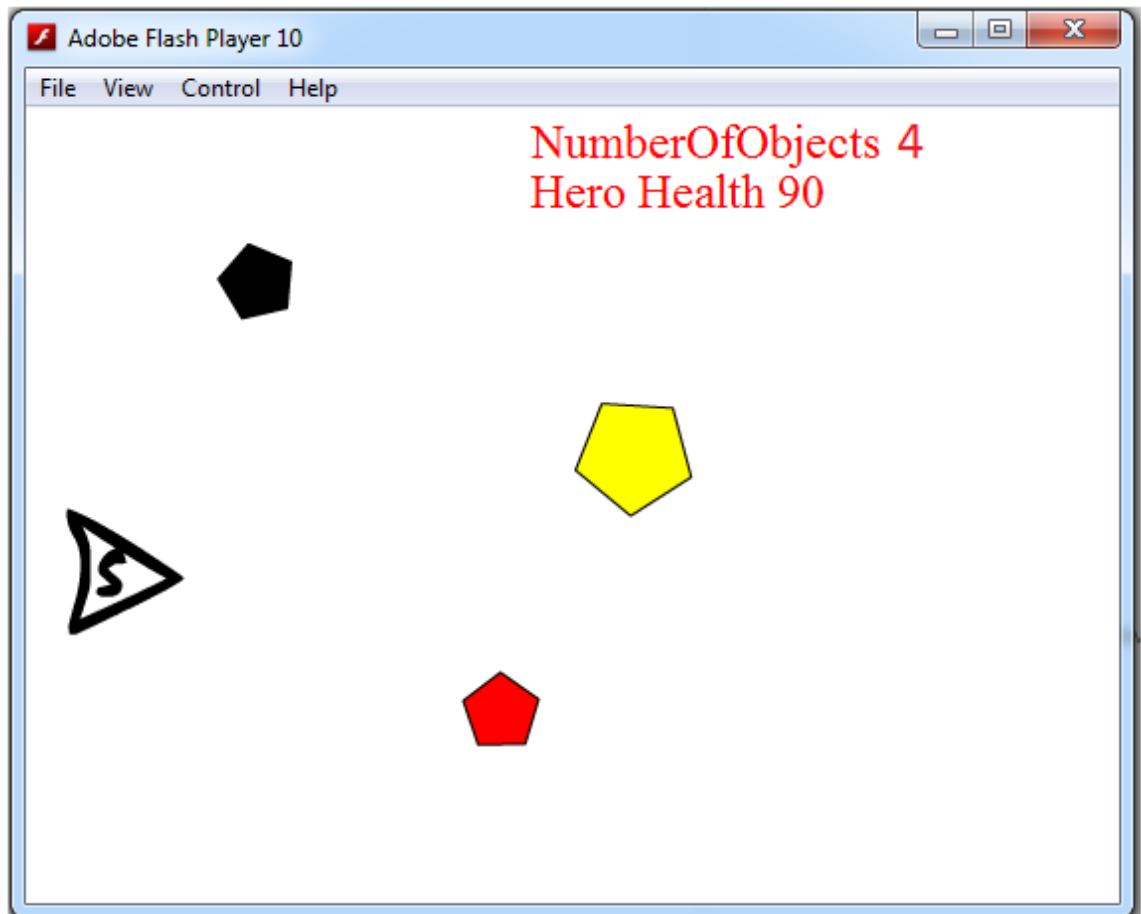
- **You play a ship trying to avoid hitting meteors (enemies)**
- **The ship follows the mouse up and down**
- **The ship starts with a health value of 100 (The "Hero Health" text should show that)**
- **Three types of enemies are found in this game:**
    - **Black Enemy (Speed = 5, Damage = 15)**
    - **Yellow Enemy (Speed = 15, Damage = 10, RotationSpeed = 5)**
    - **Red Enemy (Speed = 10, Damage = 5, Has AI explained in the provided classes)**
- **All Enemies get spawned at X = 470 and a random Y value (between 25 and 375)**
- **The ship loses health when hit by an enemy. The health value lost depends on how much damage the collided enemy does.**
- **The "NumberOfObjects" text shows how many objects we currently have on the screen (Ship + Enemies)**

Code Details:

In this assignment, you are given certain classes to create while following a specific architecture. You are not allowed to add any code in the ".fla" file, all the code you add will be in the classes you create. I have symbols created that you will have to link properly to those classes.

You need to add the correct code to the following classes:
- Level
- GameObject
- Hero
- Enemy
- BlackEnemy
- RedEnemy
- YellowEnemy

The **"Level"** class doesn't inherit from any other class. On the other hand, all other classes follow the below inheritance architecture.

```
                    MovieClip
                        |
                    GameObject
                   /          \
               Hero            Enemy
                          /      |      \
                YellowEnemy  RedEnemy  BlackEnemy
```
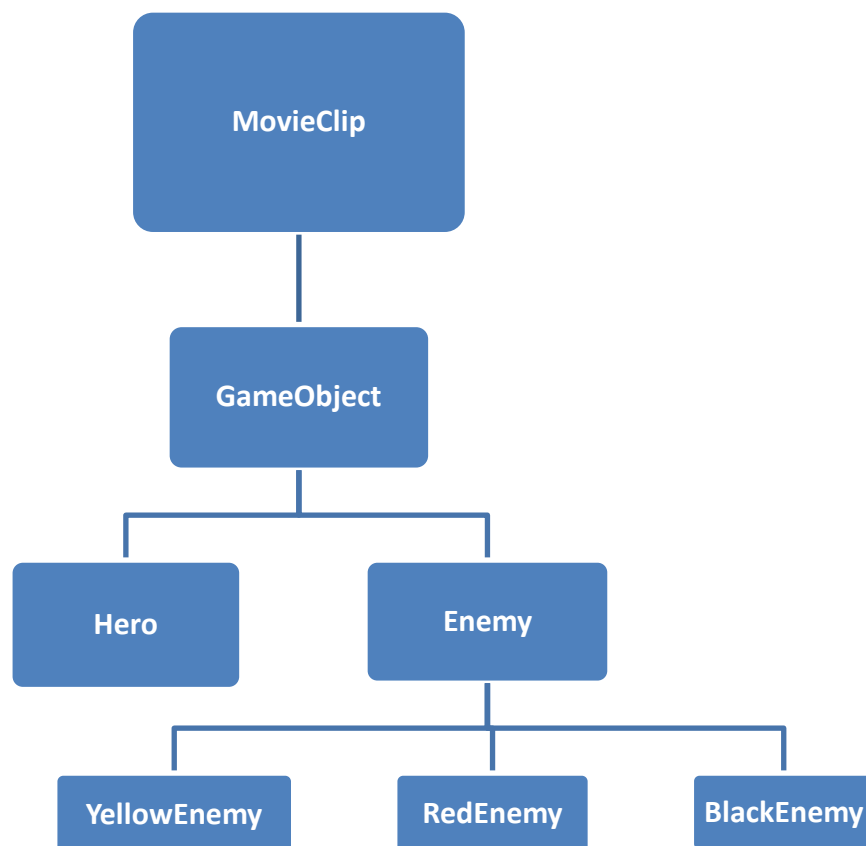
Detailed description for all required class is found inside the .as files

Example

```
Enemy.as*

 1
 2  package /*Specify the package if you have to */
 3  {
 4      /* import needed libraries and files */
 5
 6      public class Enemy extends GameObject
 7      {
 8          /*
 9              An integer representing the speed value of an enemy.
10              The enemy's position should always be updated according to this value
11          */
12          protected var iSpeed:int;
13          /* An integer value that tells us how much damage this enemy can do on the main character */
14          public var iDamage:int;
15          /* A boolean that tells us if the enemy is dead or not */
16          public var bIsDead:Boolean;
17
18          public function Enemy(nPosX:Number, nPosY:Number, iSpeedValue:int, iDamageValue:int)
19          {
20              /*
21                  This is the Enemy's constructor.
22                  It should initialize all the class variables.
23                  It will also add the event listeners needed.
24              */
25          }
26
27          protected function CheckOutsideViewPort(e:Event)
28          {
29              /*
30                  This function is called every frame.
31                  It will check if the Enemy is outside the screen (x < 0) in order to flag him as dead.
32              */
33          }
34      }
35  }
```

Notes:

- **Make sure you update the package.**

- **You are not allowed to change a property's attribute, if it is "protected" it should stay that way!!!**

- **Make sure you follow every attribute's description.**

- **Use the given ".swf" file as a reference in case you don't understand any of the attribute's description.**
- **Delete my comments when you are done and comment the assignment yourself following the commenting guidelines.**

Comments

In this and future assignments, you are required to include:

- **A file header comment at the beginning of every .fla and .as file. The format is shown in the "Comments.as" file given to you in the beginning of the semester and should be present at the very top of all your code.**

- **Function header for each function you create. The format is shown in the "Comments.as" file given to you in the beginning of the semester and should be present at the top of every function.**

- **Inline commenting for your code.**

What to submit

You must submit the (**StarEscape**) folder in a single .zip file named correctly (go to the class page on moodle and you will find the assignment submit link). **Do not submit any other files than the ones listed.**

If you've forgotten how to submit files, the details about how to submit are posted in the syllabus. Failure to follow the instructions will result in a poor score on the assignment (and possibly a zero).

Special note:

The due date/time posted is the positively latest you are allowed to submit your code. Since the assignments can easily be completed well before the deadline, you should strive to turn it in as early as possible. If you wait until the deadline, and you encounter unforeseen circumstances (like being sick, or your car breaking down, or something else), you may not have any way to submit the assignment on time. Moral: **Don't wait until the last day to do your homework.**