# Shooting Game (Target Practice)

## Class descriptions-

### Level Class:

The Level class contains variables about the level. It is used by the program to determine the speed, size and difficulty of the level that the user is playing. The variables that the class contains are-

int levelNumber –

This variable determines the number of the level. The higher the number, the harder the level is.

int maxScore –

This variable contains the maximum score for this level. It is calculated based upon the difficulty and speed & size of the objects in the level.

int currScore –

This variable contains the current score of the player.

int numTargetsSmall –

This variable contains the number of small targets that are part of this level.

int numTargetsMedium –

This variable contains the number of medium sized targets that are part of this level.

int numTargetsBig –

This variable contains the number of big targets that are part of this level.

The Level class also contains a constructor that receives and sets the levelNumber, numTargetsSmall, numTargetsMedium and numTargetsBig.

An updateScore method is also part of the Level class. This method takes the amount to add to the currScore as its parameter and adds it to the currScore.

### Player class:

The player class contains variables necessary for the program to keep track of the current player. The variables that it contains are:

string name –

This variable contains the name of the player.

int totalscore –

This variable keeps track of the player’s total score.

This class also contains multiple methods. The first is a constructor that takes a string as a parameter and assigns it to the player name.

The second method is updateTotalScore which takes an integer as a parameter and adds it to the total score.

The remaining classes are getters and setters for the necessary variables.

### Target Class:

This class contains information about the targets that are presented on screen in each level. It contains a size variable that keeps track of the size of the object, a type variable that is a string that keeps track of the kind of object that it is, a life variable that contains a number that represents the amount of life the object has, a Boolean alive variable which keeps track of whether the target is alive or dead and a score variable that contains the amount of points the player scores when this target is destroyed.

The constructor for this class takes a string as a parameter and assigns that to the ‘type’ variable. Based on the type variable, the size and the life of the target is determined and assigned to the appropriate variables.

A Shot method takes an integer as a parameter (this integer represents the hit amount from the weapon) and decrements the life of the target by that much.

A isAlive method that returns whether the target is alive or not.

A get method that returns the amount life remaining in the object.

### Weapon Class:

The weapon class contains the details about each weapon. It contains type, ammo, damage and timeReload. The type is the type of the weapon, the ammo is the number of bullets that it can fire in one go, the damage is the amount of damage that each shot from this weapon can do and the timeReload is the amount of time that the weapon takes to reload itself.

The constructor for this class takes the type of the weapon as a string, determines the ammo, damage and timeReload based upon that and assigns them to the appropriate variables.

The other methods in this class are TakenShot which is called each time a shot is taken from that weapon and decrements the amount of ammo by 1 and the Reload class which reloads the weapon ammo.

### UpdateFile Class:

This class is used to save data to a file, regardless of whether that data is the player high scores or whether that data is player game progress. It contains a string variable updatedFilePath which contains the location of the file to be written to, a StreamWriter updatedFileSW variable that is the streamwriter used to write to the file and an int recordWrittenCount which contains the count for the amount of records written.

The methods contained in this class are putNextRecord which takes the record to be written as a parameter and writes it to a file, the getRecordsWrittenCount method which returns the recordWrittenCount variable and a closeFile method which closes the file.

### LevelBonusGH Class:

This class represents the bonus Ground Hog whack-a-mole level that appears every so often within the game. It contains an int grndHogSpeed variable that determines the amount of time that the ground hog appears in each location for and the int currScore variable which keeps track of the current score for this level.

The methods in this class are a constructor which takes the speed as a parameter and assigns it to the grndHogSpeed variable and sets the currScore to 0.

The class also contains getters for the two variables within.

## Forms –











