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# CERT IV ICTPRG301

# ASSIGNMENT 2-One Button Prototype Game

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# Task 1

## Common Gaming Languages

### C#

#### Functionality

* Compiles to CLR which is interpreted by ASP.NET.
* Object Orientated Programming in Classes
* Runs in a virtual machine which automatically handles memory management
* Does not use pointers
* Can create a console, Windows, ASP.net and mobile applications but cannot create standalone

#### Syntax

* No global functions
* Applies Using Statements
* Supports each loop
* Supports Single Inheritance
* Uses references in codes

### C++

#### Functionality

* Compiles into Machine Code
* Object Orientated Programming in Classes
* Requires manual handling of memory management
* Can Use pointers
* Creates standalone applications

#### Syntax

* Has header files
* Supports Multiple Inheritance
* Uses Pointers

### Lua

#### Functionality

* Designed for extending software applications as a general embeddable extension language
* Fast speed and ease of use, not as much implementation of more complex procedures
* No notion of a main program

#### Syntax

* Simple procedural syntax based on arrays and extensible semantics

### GML

#### Functionality

* Designed for extending software applications as a general embeddable extension language
* Fast speed and ease of use, not as much implementation of more complex procedures

#### Syntax

Similar to JavaScript in Syntax. Simpler and less functionality than C based languages. API is <https://docs.yoyogames.com/source/dadiospice/002_reference/001_gml%20language%20overview/>

## Boolean Algebra

Boolean Algebra is binary logic where the state of a value can only exist in one of two conditions, true or false represented as 0&1. Implementation is then worked out as a switch value.

## Fly Swatter Prototype

The Fly swatter game is a one button game in which the player takes control of a fly swatter to swat the flies that appear on screen.

The game opens on a main menu which has only two options Play or Quit. At the same time the soundtrack to the game begins. This soundtrack persists throughout the game. If the user selects new game the game scene is loaded, if the user choose quit game the application is terminated.

The game starts with no sound and the user in control of the fly swatter. After a short period of time the user will hear the sound of a fly spawned off screen. Each fly spawns at a point off screen and follows towards a random path for a random period of time and then changes direction. If the fly manages to reach its destination the fly will drop a bomb.

The users aim is to swat the flies. If the user uses the left mouse click (also spacebar has been programmed in as the same function), the swatter swats. If the swatter is above the fly at the time it swats, the fly is squashed dead and a score is added to the tally. If the swatter swats a bomb the kill screen is activated and after a period of time returns to the title screen.

As the focus on the assignment from the tasks is on Boolean Algebra the game is set off on various conditions, including, is the fly dead, has the bomb exploded, has the fly dropped a bomb yet and depending on which condition is active or false results in the corresponding action. For this to work all scripts generally reference the game manager which directs the Boolean enquiries based on the users input.