Lab 7 – Debugging

Fork and clone the projects for Git Hub <https://github.com/Abertay-University-SDI/CMP105_W7> . This repository contains a collection of small programs that suffer from some compilation or runtime errors and need fixing.

1. Starting with application Week 7\_1, the application contains a player object that teleports to a random location when the *space bar* is pressed, and an enemy object that teleports to a random location after a set amount of time. However, the application does not compile successfully. You must find and fix the error, in the box below write down what the error was and how you found it (what debugging steps did you take, what information was useful).

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| Looked through each class and header and read through them to see if there was anything missing or not supposed to be there. The error in this task was a missing semicolon “;” at the end of the Enemy header file. |

1. The application Week 7\_2, this application contains a player object that teleports to a random location when the *spacebar* is pressed, and the player contains a bullet object that spawns at the player’s location and fires when the *Enter* key is pressed. However, the application does not compile successfully. You must find and fix the error, in the box below write down what the error was and how you found it (what debugging steps did you take, what information was useful).

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| Again, for this program I looked through the header files and classes to see if there was anything missing. I found that in the player header file there was a colon “:” missing when initialising the private objects. |

1. Application Week 7\_3 is similar to 7\_2, however this application compiles, but suffers from a runtime error. You must find and fix the error, the fixed application should have a player the teleports and shoots several bullets. In the box below write down what the error was, how you found it (what debugging steps did you take, what information was useful) and how you would fix it.

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| Added bullet to watch list its value was NULL as it wasn’t initialized a new Bullet had to be created in the player class. “bullet = new Bullet”. |

1. Application Week 7\_4 contains a player and bullet objects. This application compiles but suffers from a runtime error. You must find and fix the error, in the box below write down what the error was, how you found it (what debugging steps did you take, what information was useful) and how you would fix it.

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1. Application Week 7\_5 contains a player object and a companion object. The player object teleports around the level when *spacebar* is pressed. The companion will teleport to the player object when the *Enter* key is pressed. This application has a compilation error. You must find and fix the error (and make sure the application runs correctly), in the box below write down what the error was, how you found it (what debugging steps did you take, what information was useful) and how you would fix it.

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1. Application Week 7\_6 contains several *Bits*; small sprites that are given a random position and move up and down from the position. This application compiles but suffers from a runtime error. You must find and fix the error, in the box below write down what the error was, how you found it (what debugging steps did you take, what information was useful) and how you would fix it.

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1. Application Week 7\_7 should render a simple yellow game object near the centre of the window, but it doesn’t. You must find and fix the error, in the box below write down what the error was, how you found it (what debugging steps did you take, what information was useful) and how you would fix it.

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Make sure you show/discuss your answers with a member of staff once completed.

1. The coursework brief is on My Learning Space, under the Assessment tile. Read over the brief and write down a rough outline/design for you coursework game idea. Think carefully and write down how you game meets each of the coursework requirements.