**Spike:** 3

**Title:** Debugger use

**Author:** Will Truscott, 9992022

**Goals / deliverables:**

1. Downloaded, compiled and run the “spike3” program provided on blackboard in the IDE of your choice. The program contains a number of “bugs”, including a deliberate memory leak. (Memory is allocated, but not de-allocated.) You must discover and fix errors. (You might not find them all!)

2. Use IDE debugging tools to identify memory leaks and other issues. You must document in your spike report the IDE steps you used to do identify bugs. (You are welcome to use screen shots to supplement the written steps you have used. See the planning notes for suggested steps. )

3. Save the fixed code and included source code comments to document what you changed.

**Technologies, Tools, and Resources used:**

Visual Studio 2013

James’ knowledge of null pointer notation in C++ 11

**Tasks undertaken:**

Opened up the code and worked through it. A detailed list of the bugs found and the changes to the code that were made are listed below.

**What we found out:**

Pointer notation in C++ 11. I found out that a pointer, if not set to null or initialised is not viewed as null in C++, but just points to a blank area in memory.