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| Heriot Watt University |
| Mastermind Application |
| F28HS – Coursework 2 |

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# Problem specification:

Develop mastermind in C and assembler, running on a Raspberry Pi 2 with LEDs, a button, optional use of an LCD screen and a breadboard. Mastermind is a 70s board game which consisted of a player creating a code and a player trying to break the code. This project consists of building mastermind on the Raspberry Pi, where a sequence of colourful pegs would instead be a sequence of numbers. The Raspberry Pi would act as the “code master”, making a random code at the start of each game. The game progresses in rounds of the player or “code breaker” guessing the code. At the end of each round, the code master communicates through LEDs by use of an LCD screen, the amount of exact or approximate matches. The game continues in this routine of rounds until the code breaker correctly breaks the code. This project must also include a debug mode which displays the secret code, the inputs and the outputs on the command line.

# Hardware specification and wiring used:

Here goes the hardware specification and wiring used bs.

# Code structure:

Short discussion of the code structure, specifying functionality of the main functions.

# Functions that interact with the hardware:

List of functions directly accessing the hardware (LEDs, button and LCD) and which parts of the function uses assembler, and which uses C.

# Debug mode:

Sample execution of the program in debug mode.

# Summary:

A summary, covering what was achieved and what not, outstanding features, and what we learnt from the coursework.