COMP110 WORKSHEET B: FLOWCHARTS AND PSEUDOCODE

Version 2.0
BSc Computing for Games
COMP110

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Introduction

The open-world RPG **Fallout 4** contains a terminal hacking minigame, in which the player must guess a secret n-letter word. In this worksheet, you will model this minigame using a flowchart and a piece of pseudocode.

In the minigame, each guess receives a **likeness** score, defined as the number of letters which match the secret word (i.e. the same letter in the same position). For example if the secret word is `HOUSE` and the guess is `MOUSE`, the likeness is 4 out of 5. If the guess is `HOPES`, the likeness is 2 out of 5 (the letters `S` and `E` do not count as they are in the wrong positions). The minigame ends when the player guesses correctly, or after four incorrect guesses. (In Fallout 4 there is a way to replenish the number of available guesses, but this is disregarded in this worksheet for simplicity.)

"I'm gonna run some diagnostics while you're tinkering. Take your time."

— Nick Valentine, Fallout 4

To complete this worksheet:

(a) **Write** a piece of pseudocode which, given the secret word and the guessed word, calculates and displays the similarity score.
(b) **Draw** a flowchart for the overall minigame.

Submission instructions

Begin by **forking** the GitHub repository at the following URL:

`https://github.com/Falmouth-Games-Academy/comp110-worksheet-B`

Write your **pseudocode** in the `README.md` file. Upload your **flowchart** as an image, and embed it in the `README.md` file also. Open a **pull request**.

You may use any tool you wish to produce your flowchart, be it a software tool or pen and paper. If you use pen and paper, upload a scan or a photograph of your flowchart, ensuring that the resolution and image quality are sufficient for the flowchart to be easily legible.

Attend the timetabled worksheet review session in **Week 4**, ensuring that you have uploaded all material to GitHub and opened a pull request before this time.

The terminal hacking minigame in *Fallout 4*.

Marking criteria

Remember that **it is better to submit incomplete work than to submit nothing at all**. Any attempt, even unfinished, at producing a flowchart and a piece of pseudocode will receive a passing grade.

Your work will be marked according to the following criteria:

- Are your flowchart and pseudocode **clear** and **comprehensive**?

- Is your formatting **readable** and **consistent**?
- Have you chosen an appropriate level of **abstraction**?
- In your pseudocode, have you used appropriate **identifier names** and **comments**?