



# COMP110 WORKSHEET B: FLOWCHARTS AND PSEUDOCODE

Version 2.0  
BSc Computing for Games  
COMP110

Ed Powley

# 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.)

To complete this worksheet:

- Write** a piece of pseudocode which, given the secret word and the guessed word, calculates and displays the similarity score.
- 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.

## 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**?



The terminal hacking minigame in *Fallout 4*.

- 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**?