

# **Self Assessment**

My project is a Typing Speed game which calculates your words per minute based on input taken from the user. It calculates Net WPM, Gross WPM, accuracy, number of errors and much more. The game also has functionality to support multiple users and also store all game data and user data. Users can also view their all time stats such as their best scores and average scores as well as average accuracy and so on. Users can also view the scoreboard and compare stats with other users and their best scores.

## **Conceptual Coverage**

I have covered all the programming concepts covered in practical classes. I have used 18 instances of “for” loops and 5 instances of “while” loops, one example of using for loops is to calculate accuracy and a use case for while is the main menu driven aspect of the project. I’ve used matrices and vectors extensively throughout the project such as for storing words and user data. I’ve used conditional execution about 12 times in the project to achieve functions like checking if the csv files used to save data exist or not and then correspondingly create those files. I’ve used switch case once to check the choices inputted by the user and then running the corresponding function. Nearly all of the functionality of my project is modularized using functions that can be called and hence have about 17 functions in my project. Also entirety of my project is text based hence everything uses a text user interface so I use user input to take required information such user details and the words themselves and then output data using fprintf along with sprint. It also outputs ASCII art to make it more aesthetic as well as having a function to render data in the form of a clean and modern looking table

## **Value Add**

My code demonstrates excellent functionality and showcases creativity as well as critical thinking in my program. I have used various functionalities such as file I/O to save user data and game data and functions like `pause()` to stop the execution of program for a certain period of time and also datetime functions to measure period of time that has passed. Moreover, my code is well structured, complex and designed for easy integration of additional functionality.

## **Incremental Development**

My project contains evidence of development through commented intermediate files. I have 8 intermediary stages before I reached the final stage of my project. After making significant progress in my project, I routinely saved all files into a new folder to show progress and these files also contain comments that show my thought process as well as things that I have to do or features I intend to add

## **Testing Strategy**

My code was tested simultaneously as I was creating the project to help me with continuing the progress as a lot of the functions are inter-dependent so testing each function parallelly was essential. I have around 11 driver files to help test each function.

## **Comments and Style**

The entirety of my project has well commented on and document as it helped me revisit a part of the project and recollect its uses and logic. Each function has a documentation comment which specifies its use and each function has been named appropriately. Naming conventions and code style is consistent throughout the project except for naming .txt and .csv files. This was to maintain readability and also differentiate these files from MATLAB files.

## **Depth and Understanding**

I will be able to explain any line of code within my project as the project is completely an amalgamation of my creative and critical thought. I can easily locate

and explain any piece of logic within my script . I can also explain how to make changes to my code to be able to alter the functionality of my program.