**CPSC1012 Advanced Portfolio 1 – Text Processing and File Streams**

**Weight: 5% of your final mark**

**Hangman Game.**

Write a hangman game that picks a random word from a text file of words then asks the user to guess each letter of the word. Each letter in the word is displayed as an asterisk. When the user makes a correct guess, the actual letter is then displayed. When the user finishes a word, display the number of misses and ask the user whether to continue to play with another word. Here is a sample run:

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| CPSC1012 Hangman Game |

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I have picked a random word on Programming.

Your task is to guess the correct word.

(Guess) Enter a letter in word \*\*\*\*\*\*\* > p

(Guess) Enter a letter in word p\*\*\*\*\*\* > r

(Guess) Enter a letter in word pr\*\*r\*\* > p

p is already in the word

(Guess) Enter a letter in word pr\*\*r\*\* > o

(Guess) Enter a letter in word pro\*r\*\* > g

(Guess) Enter a letter in word progr\*\* > n

n is not in the word

(Guess) Enter a letter in word progr\*\* > m

(Guess) Enter a letter in word progr\*m > a

The word is program. You missed 1 time.

Do you want to guess another word? Enter y or n > y

I have picked a random word on Programming.

Your task is to guess the correct word.

(Guess) Enter a letter in word \*\*\*\* > a

a is not in the word

(Guess) Enter a letter in word \*\*\*\* > e

e is not in the word

(Guess) Enter a letter in word \*\*\*\* > i

i is not in the word

(Guess) Enter a letter in word \*\*\*\* > o

(Guess) Enter a letter in word \*oo\* > l

(Guess) Enter a letter in word loo\* > p

The word is loop. You missed 3 times.

Do you want to guess another word? Enter y or n > n

Good-bye and thanks playing my Hangman game.

Create a text file with exactly 10 words about a topic (Animals, Food, Jobs, etc.) of your choice. Design your program to use methods where each method cannot have more than 30 statements. Your program must handle invalid input values and not crash.

**Marking Guide**

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| **Description** | **Marks Possible** | **Marks Earned** |
| Correctness   * Loads 10 words from a text file into an array * Picked words is randomized * Correctly checks if letter is in word * Correctly tracks the number guess letters not in word * Correctly ignores guess letter already used * Loops until all letters are identified | 6 |  |
| Structure   * Code to play game multiple times * Code to guess until all letters are identified | 2 |  |
| Style and Readability   * Horizontal and vertical white space * Meaningful identifiers | 1 |  |
| Documentation   * Opening documentation * Source code comments | 1 |  |
| **Total:** | **10** |  |

**Coding Requirements**

The following coding standards must be followed when developing your program:

* Your C# Console App project must be named as **AdvancedPortfolio01-*YourFullName*** (eg: AdvancedPortfolio01-CodeGuru)
* Opening documentation at the beginning of the source file describing the **purpose**, **input**, **process**, **output, author, last modified date** of the program.
* Write only one statement per line.
* Write only one declaration per line.
* Use camelCase for local variable names and method parameter name.
* Use PascalCase for method names and constant variable names.
* If continuation lines are not indented automatically, indent them one tab stop (four spaces).
* Do NOT use the goto statement.
* There can only be one exit point for a loop, do not use the break statement inside a loop
* Do NOT use static variables.

**Demonstration and Submission Requirements**

* Demonstrate to your instructor your working program before submitting to Moodle. Be prepared to answer questions about your code after the demonstration. **No marks will be given** if you are unable to explain your code or if you submit your project without a demonstration of your working program to your instructor.