SUMMER INTERNSHIP REPORT
on
"HANGMAN GAME Using JAVA"

submitted in partial fulfilment of the requirements
for the award of the degree of

Bachelor of Technology
in
Computer Science and Engineering

By

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Department of Computer Science and Engineering

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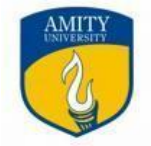
DECLARATION

I, **Rishab Mattoo**, student of B.Tech (Computer Science & Engineering) hereby declare that the project entitled **"Hangman Game using JAVA"** which is submitted by me to department of Computer Science & Engineering, Amity School of Engineering & Technology, Amity University Haryana, in partial fulfilment of the requirement for the award of the degree of **Bachelors of Technology in Computer Science & Engineering**, has not been previously formed the basis for the award of any degree, diploma or other similar title or recognition.

Date: **RISHAB MATTOO**



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CERTIFICATE

This is to certify that the work in the project report entitled "Hangman Game Using JAVA" by **Rishab Mattoo** is a Bonafede record of project work carried out by him under my supervision and guidance in partial fulfilment of the requirements for the award of the degree of 'Bachelor of Technology" **V** semester in the Department of Computer Science and Engineering, Amity School of Engineering and Technology, Amity University Haryana, Gurgaon.

Neither this project nor any part of it has been submitted for any degree or academic award elsewhere.

Date:

Head

Department of Computer Science & Engineering

Amity School of Engineering and Technology

Amity University Haryana, Gurgram

ACKNOWLEDGEMENT

I am presenting this project report entitled "**Hangman Game Using JAVA**".
I take this opportunity to express my deep sense of gratitude to Udemy App for rendering valuable assistance to me.

I would like to wish my sincere thanks to "**Learn The Part Inc."** which help me to the completion of this project. I thank them to for making a wonderful course and provide all the required inputs to help me in this project.

I would like to wish my sincere thanks to all the mentors **Rayan Slim** (Developer) , **Jad Slim** (Developer) & **Jose Portilla** (Head of Data Science at Pierian Training) whose guidance led me to the completion of this project. I thank them for making a wonderful course on **UDEMY** and provide all the required inputs to help me in this project.

I would like to thank my guide for their constant support and guidance without whom the development of this project would not have been a success. In the last I would also like to thank all my colleagues who rendered their abilities to the completion of this project.

Rishab Mattoo

ABSTRACT

This is a simple Hangman game using "**JAVA**" programming language. The Hangman program randomly selects a secret word from a list of secret words. The random module will provide this ability, so line 1 in program imports it.

Hangman is a popular word game in which one player (the "**chooser**") chooses a secret word and another player (the "**guesser**") attempts to guess the word one letter at a time. If a guessed letter appears in the word, all instances of it are revealed . If not, the guesser loses a chance. If the guesser figures out the secret word before, he or she runs out of chances, he or she wins. If not, the player who chose the word wins.

TABLE OF CONTENT

LIST OF FIGURES

CHAPTER 1
INTRODUCTION

Gaming is entertaining and fun. We can relax and decompress after our tough work thanks to it. Many of us enjoy playing and discovering new games in our spare time, while others do the same. Today, video games are advancing alongside the rapacious development of technology. These days, thanks to technology, there are a lot of games made exclusively for Windows computers. The sophisticated technology that these computer games are packed with makes them durable and draws plenty of people to acquire or own this gadget so they can experience what's inside it, making it a trend for the new generation of gadgets.

1.1 Project Scope & Description

My Java-based project is a really intriguing word-guessing game called Hangman. Therefore, Hangman is a well-known word-guessing game in which the player tries to piece together a missing word by speculating on each letter individually. A specific number of inaccurate assumptions causes the game to end and the player to lose. The game is over once the player correctly recognises every letter of the omitted word. Even though it's not the best game, it does demonstrate what can be done with basic Java programmes and may serve as the foundation for furthering the ideas and developing your own more engaging video games.

1.2 Aim & Objective

The game's main aim is to apply ideas from Java's foundational concepts will be put to the test. It will be difficult to think creatively and conduct research.

Objective:

- For mental retard people to learn new word
- Game for kids to lean English words
- Good for kids to utilize the time to learn in tempest situation.

CHAPTER 2

BACKGROUND STUDY

Figure 2.1 JAVA Symbol

2.1 About JAVA

In order to have as few implementation dependencies as feasible, Java is a high-level, class-based, object-oriented programming language. Because Java is a general-purpose programming language, compiled Java code can run on all platforms that accept Java without the need to recompile. This is what is meant by the phrase "write once, run anywhere." Regardless of the underlying computer architecture, Java applications are often compiled to bytecode that can run on any Java virtual machine (JVM). Although Java has fewer low-level features than either C or C++, it has syntax that is similar to each of them. Unlike most traditional compiled languages, the Java runtime has dynamic capabilities (such reflection and runtime code change).

According to GitHub, with 9 million developers as of 2019, Java was one of the most widely used programming languages, especially for client-server web applications.

2.2 JAVA Version

1. JDK Beta ……...(1995)
2. JDK 1.0…… (JAN 1996)
3. JDK 1.1 ……(FEB 1997)
4. J2SE 1.2 ……...(DEC 1998)
5. J2SE 1.3 ……...(MAY 2000)
6. J2SE 1.4 ……(FEB 2002)
7. JAVA SE 5 ……(SEP 2004)

8. JAVA SE 6 ……(DEC 2006)
9. JAVA SE 7 ……(JUL 2011)
10. JAVA SE 8(LTS) ……...(MAR 2014)
11. JAVA SE 9 ……(SEP 2017)
12. JAVA SE 10 ……(MAR 2018)
13. JAVA SE 11(LTS) ……...…….....(SEP 2018)
14. JAVA SE 12…….…….(MAR 2019)
15. JAVA SE 13…… (SEP 2019)
16. JAVA SE 14 ……(MAR 2020)
17. JAVA SE 15 ……(SEP 2020)
18. JAVA SE 16 ……(MAR 2021)
19. JAVA SE 17(LTS) …….(SEP 2021)
20. JAVA SE 18 ……(MAR 2022)
21. JAVA SE 19 ……(SEP 2022)
22. JAVA SE 20 ……(MAR 2023)

2.3 JAVA Features

- Simple
- Object-Oriented
- Portable
- Secure
- Robust
- Interpreted
- High Performance
- Multi-threaded
- Dynamic
- Platform Independent

CHAPTER 3
SYSTEM REQUIREMENT

3.1 Development Environment

1. Hardware Configuration

- Intel i5
- 8GB Ram

2. Software Configuration

- OS – Windows 10 pro
- Software used – Visual Code
- Development Environment: JAVA

CHAPTER 4

IMPLEMENTATION OF PROJECT

4.1 STEP FOR IMPLEMENTATION

- Choose a Random Word
- Show the gallows
- Show the missed guesses
- Replace the placeholder with correct guesses
- If user win shows the output
- If User loses shows the output

4.1.1 Brief of IMPLEMENTATION

A class game has been developed in the software where a list of wordy strings is formed. For the user to estimate its letters, one word from the list of words will be randomly selected using the random module (java.util.Random). Following word selection, the user is only permitted a total of six wrong guesses before the game is over and the user loses. As the user begins guessing the letters, the dashes in the while loop are replaced by the proper letters, and the number of erroneous guesses is increased by 1 for each incorrect guess.

When the customer guesses the incorrect letter, the first condition is utilised to alert them of the lifelines left.

The user is informed that the letters they entered have previously been predicted using the second criteria.

The final condition is to determine whether the newly predicted letter is actually present in the word; if so, the dashes are substituted with the predicted letters.

The lifeline is decreased by one if the letter is missing from the word.

If any one of the following conditions is met, the game is over:-

- The user successfully identified the entire word.
- The user's lifelines are no longer active.

4.2 TECHNOLOGY USED

- **VISUAL CODE**

Microsoft created the source-code editor Visual Studio Code, sometimes known as VS Code, with the Electron Framework, and it is available for Windows, Linux, and macOS. Debugging support, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git are among the features. The theme, keyboard shortcuts, options, and extensions that offer more functionality can all be changed by users.

In the Stack Overflow 2021 Development Survey, 82,000 participants chose Visual Studio Code as the most widely used developer environment tool, with 70% of them claiming to use it.

Figure 4.2 JAVA Symbol

- **Features of VISUAL CODE**
  - Develop
  - Debug
  - Test
  - Collaborate
  - Has a built in Terminal
  - Has a built in Terminal
  - Has smart completions with Intelligence
  - Is highly customizable and fast

CHAPTER 5
UNDERSTANDING OF GAME & RESULT

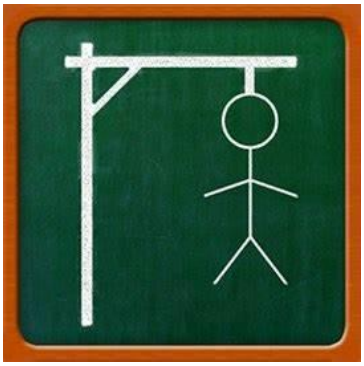

Figure 5.1 Hangman Logo

5.1 Understanding the Game

Hangman is a popular word guessing game where the player endeavours to construct a lost word by speculating one letter at a time. After a certain number of off base surmises, the game finishes and the player lose. The game also finishes when the player accurately distinguishes all the letters of the lost word.
A word has to be guessed by the player. So, the output screen will display the number of dashes representing the letters left to be guessed. Then the player will guess a letter. If that letter is present in the word, then the program will replace the dashes with the letter at every place it appears. If the letter isn't present in the word, then the number of lifelines is reduced (which consists of finite no. of chances). The player wins the game as soon as all the letters of the word have been guessed correctly.

Game Plan:- The user should start by guessing the most occurring letters in the word which are vowels(a, e, i, o, u). Apart from the vowels, the other most commonly used letters are t, n, s, h, r, d and l.

- **Possible Design and Hints**

1. Convert a String to an array of characters.
2. Get the index of a character in a String.
3. Loop through characters in a String.
4. check if two arrays are equal to each other.
5. **randomWord()**: returns a random word from the list of random words.
6. **checkGuess()**: returns true if the user guessed a letter from the word correctly.
7. **updatePlaceholders()**: updates the placeholders when the user makes a correct guess.

8. **printPlaceholders()**: prints the placeholders.
9. **printMissedGuesses()**: prints guesses that the user missed.

5.2 Hangman Game View

5.2.1 THE GAME

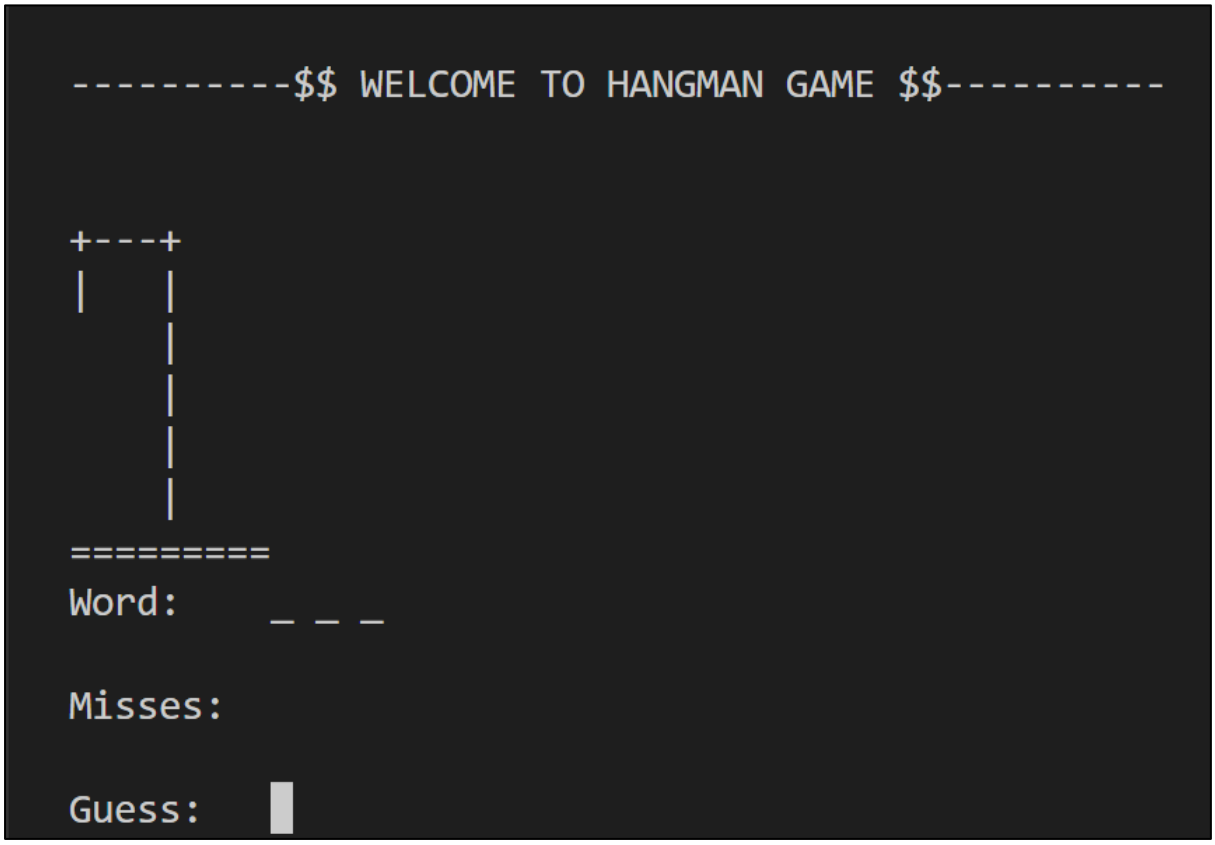

Figure - 5.2: Game Main Screen

5.2.2 The Game Element

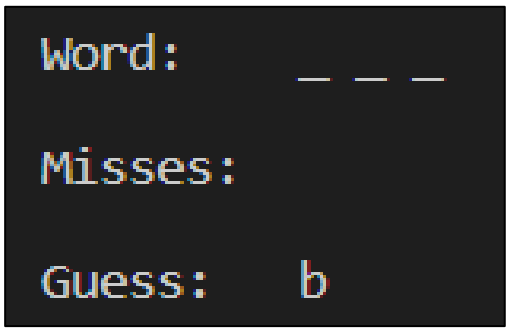

Figure - 5.3 : Game Element

5.2.3 If User Wins the Game

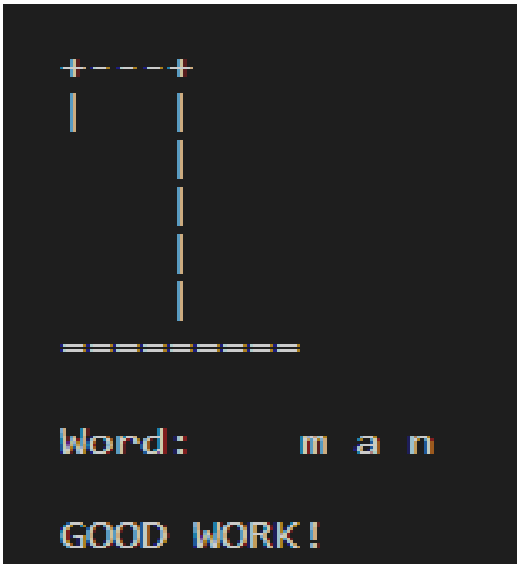

Figure - 5.4: User Win Output

5.1.4 If User loses the Game

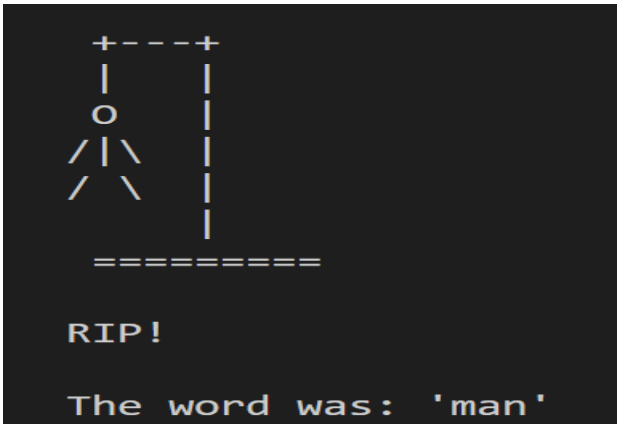

Figure - 5.5: User lose Output

CHAPTER 6
CONCLUSION AND FUTURE SCOPE

6.1 CONCLUSION

The project is written in Java and has basic terminal output. The well-known "Hangman Game" is playable in this project in the same way that it is elsewhere. To enter the alphabet and play the game, you must use a keyboard.

It isn't the world's greatest game, but it does give you an idea of what you can achieve with relatively simple java programming, and perhaps the basis by which to extend the principles and create more interesting games on your own.

The existing system only provides a text-based interface, which is not as user-friendly as Graphical user Interface.

Since the system is implemented in Manual, the response is very slow.

The transactions are executed in off-line mode, hence on-line data capture and modification is not possible.

6.2 FUTURE SCOPE

In this project, I have used a simple language to code. This project will be able to be implemented in future after making some changes and modifications as I made this project at a low level. The modifications that can be done in this project are:-

1. It can be made with good graphics.
2. We can add more options like Top scores and Player Profile.
3. We can add multiplayer option.