TRIBHUVAN UNIVERSITY

INSTITUTE OF ENGINEERING THAPATHALI CAMPUS

A Minor Project Report On

Snake and Ladder game

Submitted By:

Sheikh Muhammad Samir Hoda[THA081BCT036]

Shishir Shrestha[THA081BCT038]

Prasiddha Adhikari[THA081BCT021]

Shivam kumar sah[THA081BCT039]

Submitted To:

Department of Electronics and Computer Engineering

Thapathali Campus (12, Center Justified) Kathmandu, Nepal

March, 2019

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Submitted To:

Department of Electronics and Computer Engineering
Thapathali Campus
Kathmandu, Nepal

In partial fulfillment for the award of the Bachelor's Degree in Computer Engineering.

Under the Supervision of

Prajwal Pakka

March, 2025

DECLARATION

We hereby declare that the report of the project entitled **"Snake and ladder game"** which is being submitted to the **Department of Electronics and Computer Engineering, IOE, Thapathali Campus**, for the completion of our first semester, this report showcases the work carried out by us. The materials contained in this report have not been submitted to any University or Institution for the award of any degree and we are the only author of this complete work and no sources other than the listed here have been used in this work.

Sheikh Muhammad Samir Hoda[THA081BCT036] _____

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Shivam kumar sah[THA081BCT039] _____

Date: March, 2019

CERTIFICATE
OF APPROVAL

The undersigned certify that they have read and recommended to the Department of Electronics and Computer Engineering, IOE, Thapathali Campus, a major project work entitled "Data-Driven Approach in Isolating Vocals and Instruments from Music" submitted by Sheikh Muhammad Samir Hoda, Shishir Shrestha, Prasiddha Adhikari, Shivam kumar sah in partial fulfillment for the award of Bachelor's Degree in Computer Engineering. The project was carried out under special supervision and within the time frame prescribed by the syllabus.

We found the students to be hardworking, skilled, and ready to undertake any related work to their field of study and hence we recommend the award of partial fulfillment of the Bachelor's degree in Computer Engineering.

_____

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Prajwal Pakka
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ABSTRACT

Snake and Ladder is a classic board game that was originated in ancient India and is now enjoyed worldwide. The game is played on a numbered grid, usually from 1 to 100, with snakes and ladders placed at different positions. Players take turns rolling a die and move their token forward based on the number rolled. Landing on a ladder allows the player to climb up to a higher position, while landing on a snake sends them down to a lower number. The game is purely based on luck, as there are no strategic moves involved. It is often played by children for entertainment but also helps in learning number recognition and counting. Traditionally, the game was designed to teach moral lessons, where ladders represented virtues and snakes symbolized vices. The first player to reach the last square (usually 100) wins the game. Snake and Ladder is a simple yet engaging game that continues to be popular across different age groups. The aim of this project is to create a similar game using c program that can run on a terminal . This game will use different variable to represent snake ,ladder and player position. The game will also have a score system. The game will be designed for beginners who want to learn C programming and have fun at the same time.

Table of Contents

1. INTRODUCTION

Snake and Ladder game is a classic board game which demands patience and luck from the players. There are altogether of 10 rows and 10 columns, this sums to 100 total boxes and a dice. In the game we have created, n number of players and participate, they would enter the game as soon as their rolls to 1 and the one reaching the box number 100 first than anyone wins the game

1.1 Background

The game originated in ancient India as "Moksha Patam", a moral teaching tool designed to show the consequences of good and bad deeds. The ladders represented virtues like honesty and kindness, while the snakes symbolized vices like anger and greed. British colonists later introduced the game to the West, where it evolved into the modern version known today.

Rules of the Game

1. Players take turns rolling a die and move forward by the number shown on the die.
2. If a player lands at the bottom of a ladder, they climb up to a higher square.
3. If a player lands on the head of a snake, they slide down to a lower square.
4. The first player to reach or exceed the last square (typically 100) wins the game.

1.2 Motivation

We always wanted our first project to be something that had memories from our childhood, since snake and ladder game was something we all craved to play when we were kids, we decided to give it a try and thus we went on creating one.

1.3 Project Objectives

The main objectives of our project is listed below**:**

- To create a interface that would run our game

1.4 Project Scope and Applications

Mobile addiction is one of the most disastrous thing prevailing in today's world, a person first choice for seeking entertainment is mobile which takes away hours of one's productive time which he/she regrets after else. So whenever a person seeks for entertainment he/she can play this game which finishes in few minutes and save his hours.

1.5 Report Organization

This report is divided into 9 chapters. Each chapter discusses different issues related to this project. The outline of each chapter is stated below. A basic introduction about the snake and ladder game has been described in chapter 1. The project statement, objectives, and applications of the project have also been described in this chapter. Chapter 2 covers the important background information and history about the game. Chapter 3 gives information about different functions we have used in making of the project. Methodology and working principles of the separation processes are described in Chapter 4. The block diagram of the system as well as the different processes used for separation are also described here. In chapter 5, the implementation of the project is defined. Also the outputs are illustrated. The future enhancements which can be made in this project are described in chapter 6. Finally, the conclusion drawn from this project, by the team members, is covered in chapter
7.

2. LITERATURE REVIEW

The literature review of this project will cover the following topics: • The history of the snake ladder game. • The history and development of the C programming language. • The methods and techniques of creating a game using C program that can run on a terminal.

2.1 The history of the snake ladder game

The origins of the Snake and Ladder game trace back to ancient India where people called it Moksha Patam or Paramapada Sopanam which translates to "the ladder to salvation." * The game was designed to serve as a teaching tool which represented the principles of karma (actions) and dharma (righteousness). ORIGIN IN INDIA

- Saints and scholars created the game to serve as an educational tool for imparting Hindu philosophy and moral lessons.
- Players could achieve Moksha (salvation) through the virtues represented by the ladders including honesty and humility along with kindness. • The snakes in the game stood for vices like anger and greed which diverted players from achieving salvation.
- The highest achievement of the game meant arriving at the top to represent spiritual enlightenment. Spread to other countries
- The British colonial powers introduced the game to England during the 19th century before transforming it into a children's activity.
- The British changed the name of the game to "Snakes and Ladders" while erasing its ethical and religious significance.
- The game made its way to England before it expanded globally to establish itself as a favorite board game for families. Modern Adaptation
- In the United States, the game was introduced by Milton Bradley in 1943 as "Chutes and Ladders", replacing snakes with slides.
- Today, it is played worldwide in different versions, often as a simple game of luck rather than a philosophical teaching tool.

Despite its evolution, the core mechanics of rolling dice, climbing ladders, and avoiding snakes remain unchanged, making it one of the most enduring and beloved board games in history.

3. REQUIREMENT ANALYSIS

The game we have created is played on console. All the problems we faced throughout were solved by our programming skills, thus the thin required for our project is the programming language and some header files.

3.1 Programming languages and libraries

The programming language used in this project is C- programming language and the libraries used are listed below:

1. stdio.h: It is used to import functions like printf,scanf,gets,etc
2. stdlib.h: It is used to import srand function.
3. time.h : It is used to import time function.
4. windows.h: It is used to add colour in texts we are to print.

4. IMPLEMENTATION DETAILS

We have created this project using a main and two user defined functions, scoreboard and disc, the detail of how it works is mentioned below:

4.1 main function

Here we have coded asking user to enter basic details to run the game, number of players and their names, number of players when entered by user creates an array where the position of that player is stored, initially the players are assigned the position 0, then we have used do while and both the functions are called inside among which random number generated in ***disc*** function is returned, on basis of the random number generated the position of player is updated and the game moves on and the ***scoreboard*** function is called and the process continues.

4.2 scoreboard function

This is a function that takes argument value of the array in which the player's position is entered and the framework i.e. the scoreboard is printed. Each row of the scoreboard is separated by 38 '-' lines, we have used the concept of nested for loop to print the scoreboard. If the player position coincides with any number in between 1 to 100, the number is replaced by the "**P[**<the number of that player>**].** If multiple player's position are in the same number then the number is replaced by **#<the number of players that are at that point**>.

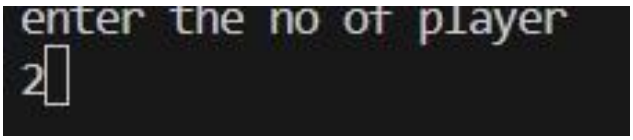
4.3 disc function

This function deals with creation of random number in between 1 to 6 and thus returns value to main function on basis of which the position of player is updated

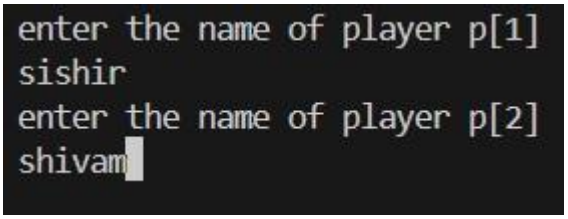
5. RESULTS AND ANALYSIS

The result of every possible cases that may appear in the project is below

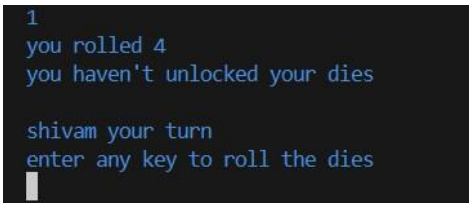
5.1 Asking the number of players



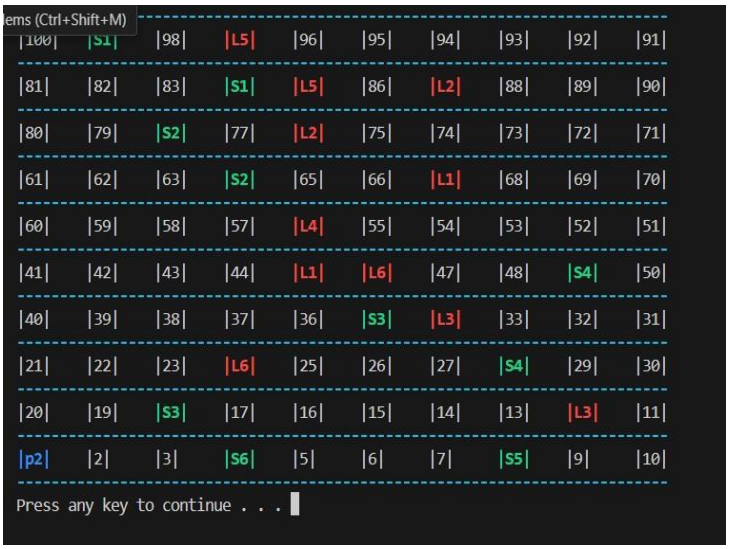
5.2 Asking the name of players



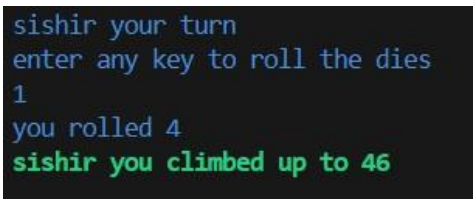
5.3 Rolling the dice



5.4 When someone enters the game



5.5 When someone climbs the ladder



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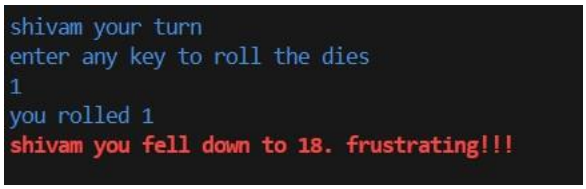
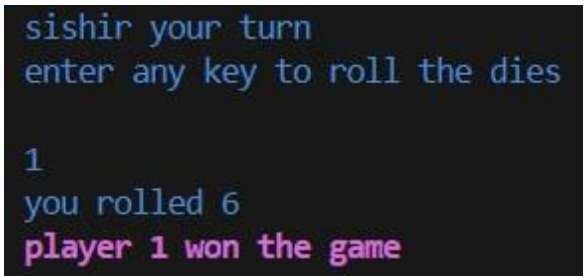
5.6 When someone drops from snake



5.7 When someone wins the game



6. FUTURE ENHANCEMENT

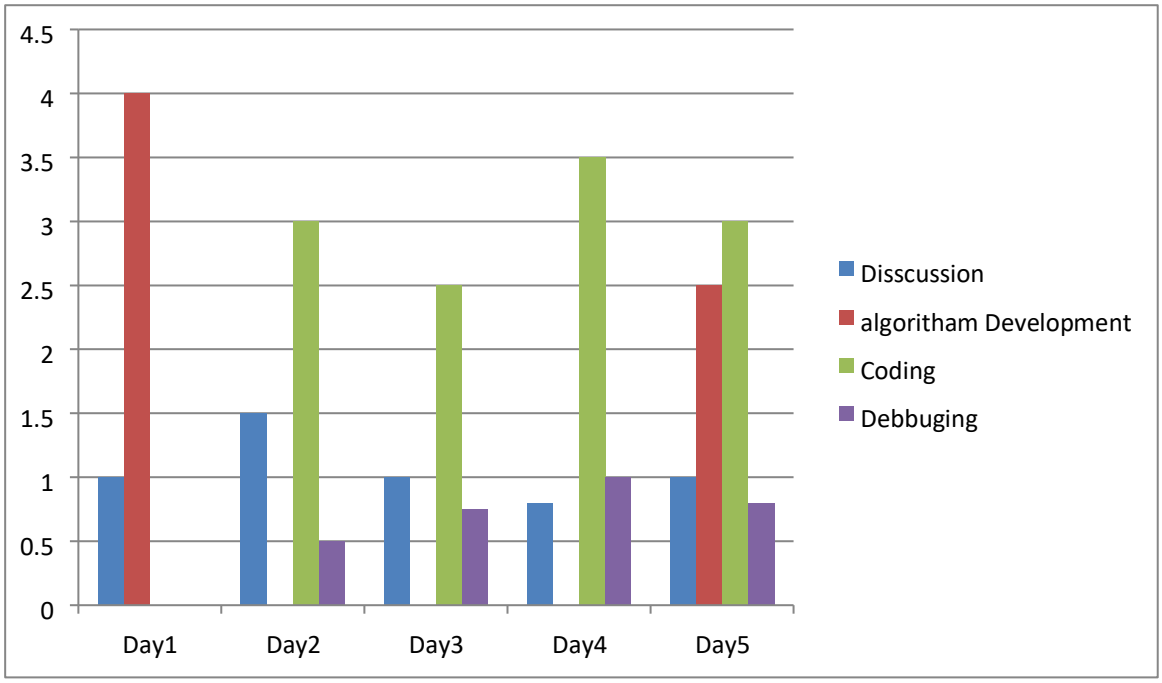
There is always room for improvement in every project and this project is not an exception. There can be improvements in some areas of our project. We are many concepts that we don't know yet that can help in enhancement of our project. We have not used the concept of graphics which would make our project more appealing to explore which is one of the prospect which can be added.

7. CONCLUSION

With this project of C programming, we got familiarized with real life programming. How coding to solve a particular problem and to create something are different is well understood by us during making of this project, how to correctly work in team and other various skills are developed by us which would help us for our career in programming.

8. APPENDICES

Appendix A: Gantt diagram



Start Date :8 February

End date :13 February

References

[1] Ram Datta Bhatta, "A Textbook of C PROGRAMMING"

[2] Youtube.com

[3] Chatgpt

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