

Presentation on Snake Ladder Game

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Introduction

- **Game**

A game is an interactive activity with rules, goals and challenges designed for entertainment, learning, or competition.

Snake ladder Game

- **Classic Board Game** – Snake and Ladder is a popular board game played between two or more players, where the goal is to reach the final square by rolling a die.
- **Snakes and Ladders Mechanism** – Landing on a ladder moves the player up, while landing on a snake sends them down, adding an element of luck to the game.

Cont...

- **Modern Adaptations** – The game has been adapted into digital versions, mobile apps, and multiplayer online games, making it accessible to a wider audience.

History

- **Ancient Indian Origins** – Snake and Ladder, originally known as *Moksha Patam*, was created in ancient India as a moral teaching tool, representing virtues (ladders) and vices (snakes).
- **Spiritual Symbolism** – The game was designed to teach karma, destiny, and the path to enlightenment, where good deeds helped players ascend, and bad deeds caused them to fall.
- **Spread to Britain** – During the British colonial period, the game was taken to England in the late 19th century, where it was modified and renamed "Snakes and Ladders."

Objectives

- A snake ladder game using c
- Game logic implementation
- Data management
- User interaction
- Code Maintainability
- Future Enhancements

Features of the Game

- Multiplayer support (2 or more players)
- Random dice rolls for fairness
- Ladders to boost progress
- Snakes to challenge players
- Unlocking dice mechanism
- When one player reach to 100 then remaining can continue play.


How the Game Works?

- Players enter their names and number of participants.
- Each player rolls the dice (random number from 1-6).
- Players move forward based on the dice roll.
- Position of player denote by **P1, P2 , P3.....**
- Different colors are used to denote the positions of different players.

Cont...

- If multiple player at the same position then denote by **#number of player#**.
- Ladders help players climb up.
- Snakes push players down.
- The first player to reach 100 wins

Special Rules

- Players must roll a 1 to unlock their dice.
- If a player exceeds 100, their move is canceled.
- Special positions for snakes  and ladders affect movement:

Ladder	Moves up to
12	34
24	46
45	67
56	68
76	87
85	91

Cont...

Snake	Moves Down to
99	84
18	4
78	64
35	18
49	28
24	8

Game Board Representation

- Uses a 2D representation with numbered squares.
- Special positions for snakes & ladders.
- Players' positions stored in an array.
- Each player is represented with a unique color code.
- Snakes (S) and Ladders (L) are marked for visibility.
- Two different color for snake and ladder.
- Specify the ending and starting point of snake and ladder.

Interface

This is how our game interface looks when all four players are in the game.

100	S1	98	97	96	95	94	93	92	L5
81	82	83	S1	L5	86	L2	88	89	90
80	79	S2	77	L2	75	74	73	72	71
61	62	63	S2	65	66	p3	L4	69	70
60	59	58	57	L4	55	54	53	52	51
41	42	43	44	L1	L6	47	48	S4	50
40	p1	38	p2	36	S3	L3	33	32	31
21	22	23	L6	25	26	27	S4	29	30
20	19	S3	17	16	15	14	13	L3	11
p4	2	3	S6	5	6	7	S5	9	10

Challenges Faced

- Handling player turns efficiently
- Preventing infinite loops in the game logic
- Using different color for representing different player.
- Denoting the position of player, snake and ladder

Conclusion

- A simple yet engaging game built in C.
- Showcases loops, conditions, and functions effectively.
- A great way to learn game logic implementation!
- Future enhancements could include a GUI version!

Thank You!!!!

ANY

QUESTIONS????