Project Based Learning @ROOT - IT

Game Suggestions

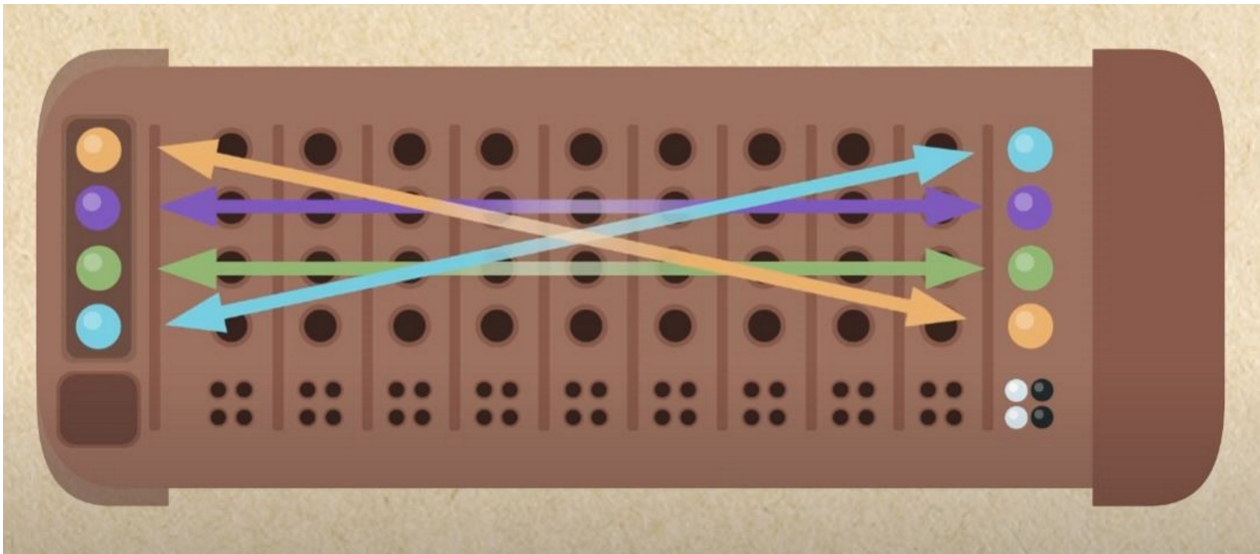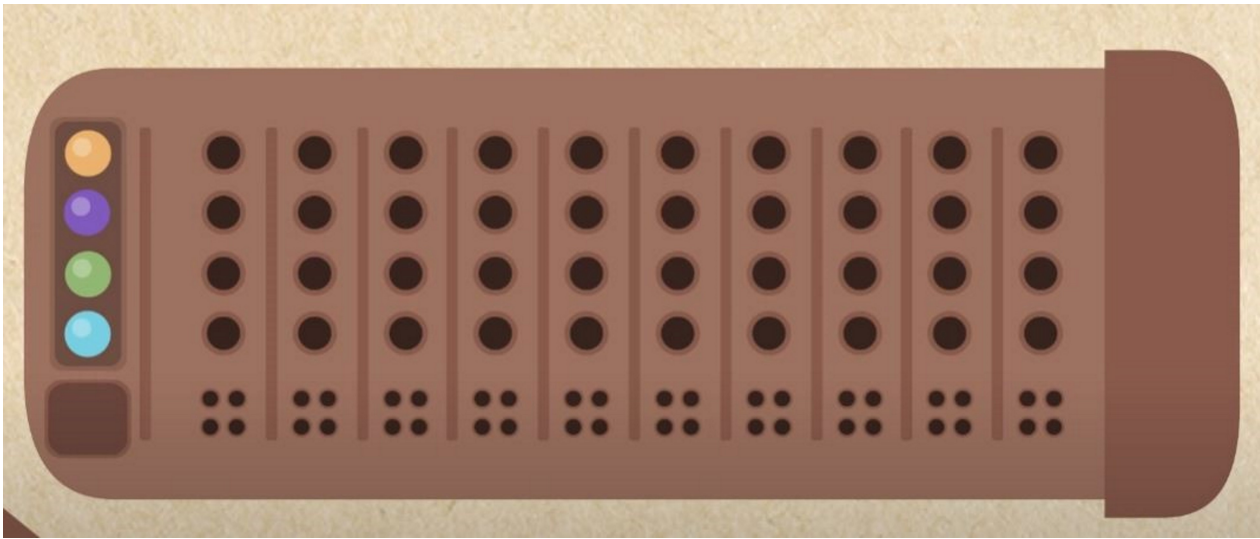**These games are chosen to provide a good understanding of Game Logic, UI Elements, Data Structures, Network and AI Programming**

1. **Tic Tac Toe https://www.youtube.com/watch?v=3qzcAMShotQ**

2. **Crack the Code: 3 -Digit (Solve with Guidance)**

Crack The Code

3	4	2	Two numbers are correct but wrongly placed
2	7	3	One number is correct and well placed
1	6	5	One number is correct and well placed
8	5	3	Nothing is correct
1	3	4	One number is correct and well placed
			What is the number?

3. **Mastermind https://www.youtube.com/watch?v=wsYPsrzCKiA**

Implement the logic according to the given variants

- **Variant 1 -** Single Round Variant: Single Player vs Computer - Computer is the Codemaker and the user will be the Codebreaker.
- **Variant 2 -** Single Round Variant: Computer vs Single Player - Player is the Codemaker and the Computer will be the Codebreaker.
- **Variant 3 -** Single Player Multi-Round Variant: Player and Computer Alternate as Codemaker and Codebreakers over a number of predefined rounds and the winner will be determined based on the points gained. Watch the video carefully to understand point calculation logic.
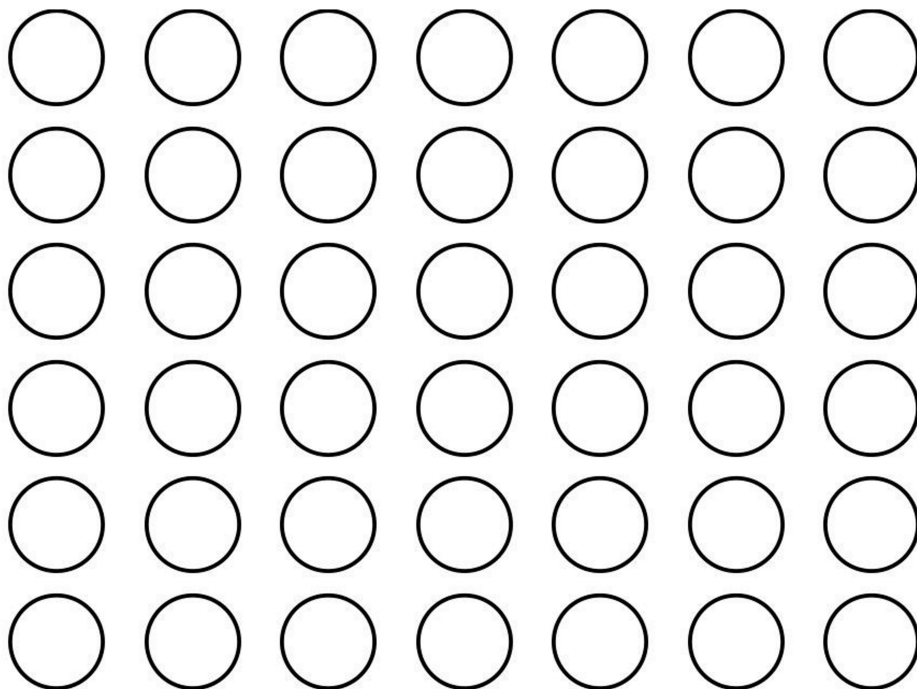- **Variant 4 -** Two Player Multi Round Variant: Player1 and Player2 Alternate

as Codemaker and Codebreakers over a number of predefined rounds and the winner will be determined based on the points gained.

4. **Black Jack** **https://www.youtube.com/watch?v=eyoh-Ku9TCI**
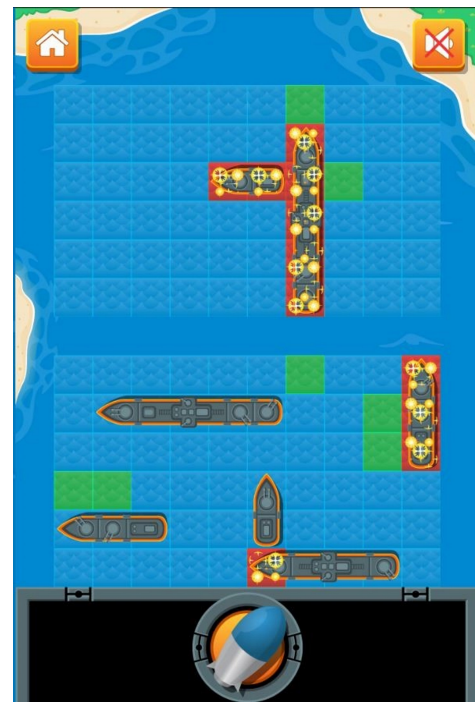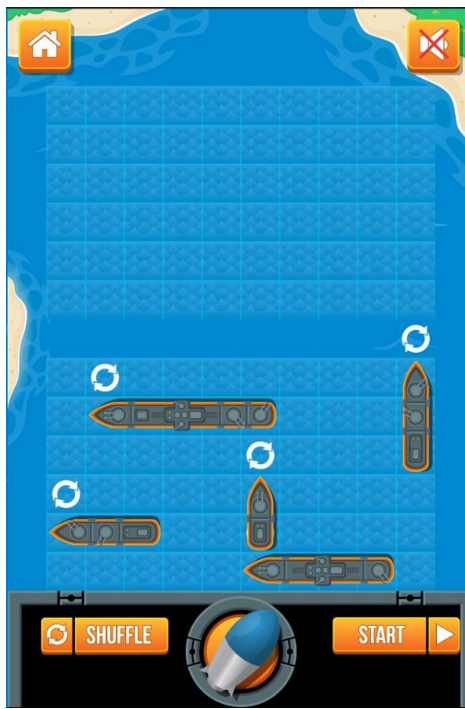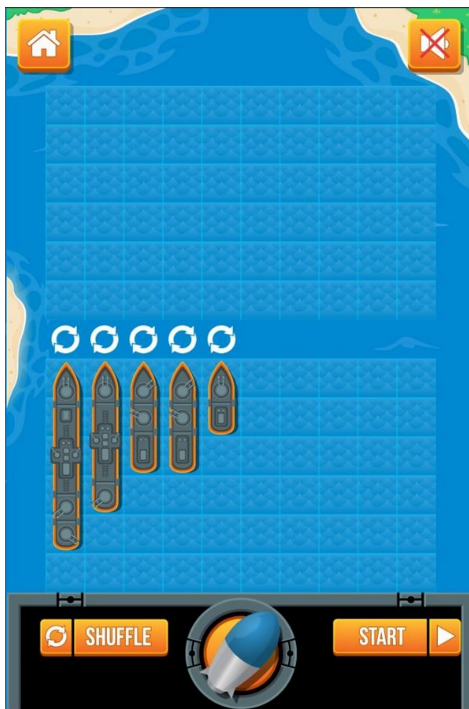
   Implement the logic according to the given variants
   - **Variant 1-** Single Player vs AI Dealer: Computer is the dealer and the player will bet against the system. Start with a predefined amount of bet money and declare the winner based on money earned or lost over a predefined set of rounds or when the user or dealer loses all their money.
   - **Variant 2 -** Multi Player vs AI Dealer: Computer is the dealer and the players will bet against the system. Start with a predefined amount of bet money for each user and determine the winner based on the actual blackjack game rules as explained in the video.

5. **Connect 4** **https://www.youtube.com/watch?v=ylZBRUJi3UQ**

6. **Battleship** **https://www.youtube.com/watch?v=RY4nAyRgkLo**

7. **Sudoku (Generator and Solver)**
   https://en.wikipedia.org/wiki/Glossary_of_Sudoku

Other Games

8. Crack the Code: 3 -Digit (Pre-Generated)

9. Minesweeper – Single Player Game

10. Candy Land – Two Player Game

11. Snake and Ladder – Two/Multi Player Game

12. Chess – Two Player Game

13. Othello/Reversi – Two Player Game

14. Yahtzee – Two Player Game

15. Goat and Tiger – Two Player Game Indian Version

16. Goat and Tiger – Two Player Game Nepal Version

17. Go – Two Player Game

18. Ticket To Ride – Two Player Game with Complex Rules

19. Magic Square Solver – 3 x 3 and 5 x 5 (Try Fraction Squares)

Intermediate Level

20. Snake Game – Single Player with Keystroke Interaction

21. Battleship– Two Player Game with Network Support

22. Blackjack– Multi-Player Game with Network Support

23. Go – Two Player Game with Network Support

24. Goat and Tiger – Single Player Game with AI

25. Connect 4 – Single Player Game with AI