

# PROJECT REPORT

## MIND MATCH: THE GUESSING GAME OF BULLS AND COWS

### INTRODUCTION:

My game Mind Match is a simple implementation of the classic game 'Bulls and Cows' where players guess a unique 4-digit number. The game gives back the feedback on the player's guess in the form of bulls and cows, indicating the number of correct digits in the wrong and correct positions respectively.

### FEATURES:

1. It is a multiplayer game up to 4 players, allowing multiple players to take turns guessing the secret code.
2. A unique random 4-digit number is generated in the beginning of each game.
3. The game features clear instructions.

### IMPLEMENTATION:

A C-program is written using various functions like:

**1.has\_unique\_digits():** Makes sure the given number is unique or not.

**2.random\_number():** Using the **rand() function** from the standard library **time.h**, it makes sure a 4-digit random number is generated. And also, by **srand(time(0)) function**, it makes sure a different 4-digit number is generated for every game.

**3.checking():** This function is used to compare the player's guess with the generated secret code, and count the number of bulls and cows.

**4.main():** And in the main function, introduction and rules are displayed in a structured, different manner such that they appear consecutively after a few seconds, on their own. This is done by applying the **usleep() function** using the standard library **unistd.h**. The game allows multiple players. Inputs are taken, functions are called and the game is executed using for loops, if-else statements.

### INSTRUCTIONS:

To play the game, users must compile the source code using a C compiler such as GCC. Once compiled, they can run the executable file to start the game. Players are prompted to enter the number of participants (1-4) and then take turns guessing the secret code. The game continues until a player guesses the code correctly.

### CONCLUSION:

In conclusion, "Mind Match" offers an enjoyable and interactive gaming experience for the players. By combining elements of logic, deduction, and strategy, the game provides a challenging yet rewarding experience. With its user-friendly interface and engaging mechanics, "Mind Match" is sure to entertain and captivate the players.