**Members:**

**FA23-BCS-208(Muhammad Saffi)**

**SP24-BSE-083(Muhammad Safi Ur Rehman)**

**SP24-BSE-103(Rana Muhammad Umair)**

**Bluff Game README**

**Overview**

Bluff is a card game where players attempt to deceive each other into believing they are playing certain cards. The goal of the game is to successfully play all your cards or trick your opponent into picking up the pile. The game consists of two players: the human player and the computer, and players take turns to either play cards, pass, or call a bluff. The game continues until one player runs out of cards.

**Features**

* **Main Menu:** The game starts with a main menu where players can choose to play the game, view statistics, or exit the application.
* **Gameplay:** The game is played with a standard deck of cards. Each player is dealt half the deck, and players take turns either playing cards, passing, or calling a bluff.
* **Game State Display:** The current state of the game is displayed with messages indicating whose turn it is, the cards in play, and instructions for the player.
* **Bluff Mechanism:** Players can attempt to bluff, and their opponent can call the bluff. If the bluff is successful, the opponent picks up the pile; otherwise, the player who bluffed must pick up the pile.
* **Statistics:** After the game, players can view statistics that show the number of times each player has won and lost.

**Game Setup**

**Main Menu**

The game opens with a main menu where players can:

1. **Play Game:** Start a new game session.
2. **View Statistics:** View the statistics of past games (e.g., number of wins and losses).
3. **Exit:** Close the game application.

**Play Game**

Once the "Play Game" button is clicked, the game initializes by shuffling the deck and dealing half the cards to both players. The human player’s hand is displayed, and the first round begins.

**Human Player Actions**

During the player's turn, they can:

1. **Play Cards:** The player selects cards from their hand to play onto the pile. The player can play multiple cards if they wish.
2. **Pass:** If the player does not want to play any cards, they can pass their turn to the computer.
3. **Call Bluff:** If the player suspects the computer of bluffing, they can call the bluff. If the bluff is successful, the computer must pick up the pile; otherwise, the player must pick it up.

**Computer Player Actions**

The computer follows a random strategy for playing cards and calling bluffs. It will either play a few cards or pass based on random decisions. The computer may also choose to call a bluff at random or after a few turns. The computer will not call a bluff on the first turn of the round.

**Round and Turn Progression**

The game progresses through rounds. Each round starts with an empty pile. Players take turns playing cards or passing, and the first card played in the round is displayed. The current rank that is being played is also displayed, and players must follow this rank unless they are bluffing. If a player cannot or does not want to follow the current rank, they can either pass or attempt to bluff.

**First Card of the Round**

The first card played in each round is displayed as the "First Card of Round." If the human player is the first to play, this will be based on their selection of cards.

**Pile View**

The pile is updated with the cards played during the round. The pile view is updated every time a card is added, and players can see the cards played by both the human and computer players. The pile also displays the current rank being played, and players must adhere to this rank unless they are bluffing.

**Bluffing and Call Bluff**

Bluffing is a key part of the game. Players can bluff by playing cards that don’t match the current rank. The opponent can call a bluff if they suspect the player is not following the rank. The result of the bluff determines who picks up the pile:

* If the bluff is successful, the player who bluffed gets to continue the round.
* If the bluff fails, the opponent must pick up the pile and continue the round.

**Winning the Game**

The game ends when one player runs out of cards. The first player to empty their hand wins the game. After the game ends, a message is displayed indicating the winner, and the player can choose to play again or view statistics.

**Statistics**

At any point during the game, players can choose to view statistics. The statistics window shows the number of times each player has won or lost the game. The statistics are updated every time a game ends, and players can use this data to track their performance.

**UI Design**

* **Background Image:** The background of the game is a visual representation that changes for different scenes, such as the game menu, the play area, and the statistics window.
* **Buttons:** The interface includes buttons for starting the game, viewing statistics, playing cards, passing, calling a bluff, and exiting the game.
* **Labels:** Labels are used to display game state messages, such as whose turn it is, instructions for the player, and the first card of the round.

**Conclusion**

Bluff is an engaging card game that combines strategy and deception. Players can test their skills in bluffing and try to outsmart their opponent. With an easy-to-use interface and a fun gameplay experience, Bluff provides hours of entertainment for players of all ages.