Project Report

[Rock, Paper, Scissors Game with C++]

Executive Summary: This project involves the implementation of a simple Rock, Paper, Scissors game using C++. The primary goal is to provide an interactive and engaging user experience, allowing players to compete against the computer in multiple rounds. The key objectives include creating a well-structured C++ program, implementing the game logic, and ensuring a clear user interface. The project aims to demonstrate fundamental programming concepts and problem-solving skills.

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Introduction: The Rock, Paper, Scissors game is a classic hand game that serves as a foundation for this project. The program allows a user to play against the computer in a specified number of rounds, with each round involving a selection of Rock, Paper, or Scissors.

Methodology:

- **Project Design:** The design focuses on creating a clear and interactive user interface, incorporating input validation, and implementing the game logic.
- **Tools and Technologies:** C++ is the primary programming language used for implementation.
- **Implementation Approach:** The project follows a modular approach, breaking down the code into functions for better readability and maintenance.

C++ Code Implementation:

- **Task/Problem Description:** Develop a Rock, Paper, Scissors game allowing user-computer interactions.
- **Algorithm Overview:** Utilize conditional statements to determine winners for each round.
- **Code Structure:** Organized into functions for input, game logic, and result display.
- **Key Functions and Variables:** Includes functions for user input, random computer choice, and winner determination.

Results and Discussion:

- **Code Output:** The code output showcases the interactive gameplay of the Rock, Paper, Scissors game for the specified number of rounds. In each round, the program displays the current round number, the player's and computer's scores, and prompts the player to choose between Rock, Paper,

or Scissors. After the player makes a selection, the program reveals the computer's choice and declares the winner of the round based on the classic game rules.

- **Challenges Encountered:** Challenges related to input validation and pausing for user input.
- **Solutions Implemented:** Solutions involve looped input validation and utilizing **cin.get()** for pausing.

Conclusion:

- **Summary of Findings:** Successfully implemented a functional Rock, Paper, Scissors game.
- **Project Achievements:** Accomplished a clear and interactive C++ program.
- **Lessons Learned:** Gained insights into user input validation and random number generation.

Future Work:

- **Opportunities for Improvement:** Enhance the user interface, add more gameplay features.
- **Potential Extensions:** Implement a graphical version or expand the game options.

References:

- **Title: "** Rock Paper Scissor Game in C++ | C++ Game Project | C++ Tutorials For Beginners**”**
- **URL:** https://www.youtube.com/watch?v=3W4J9gioaR4