CUSTOM PROGRAM DESIGN REPORT

-COS10009-

INTRODUCTION TO PROGRAMMING

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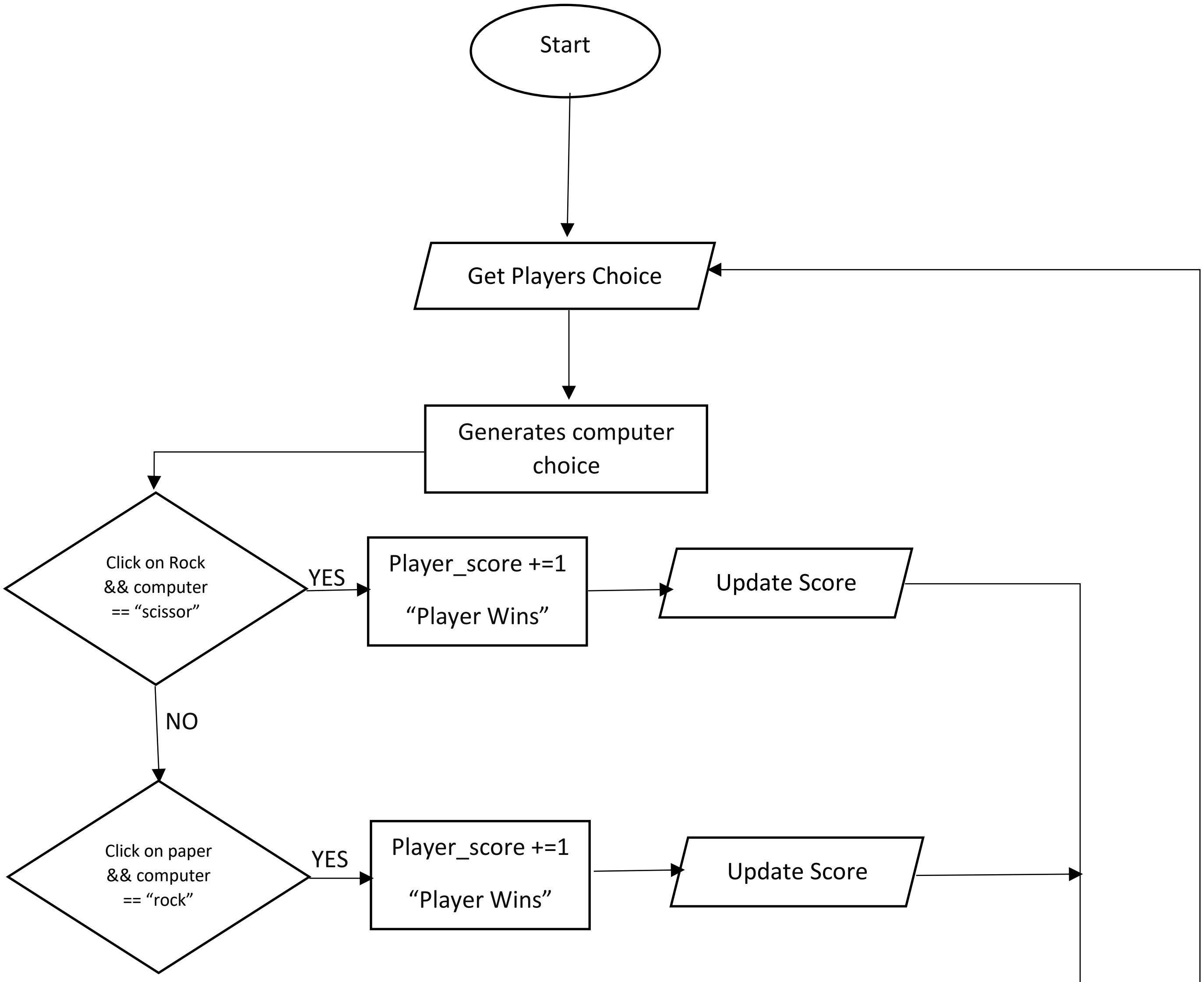
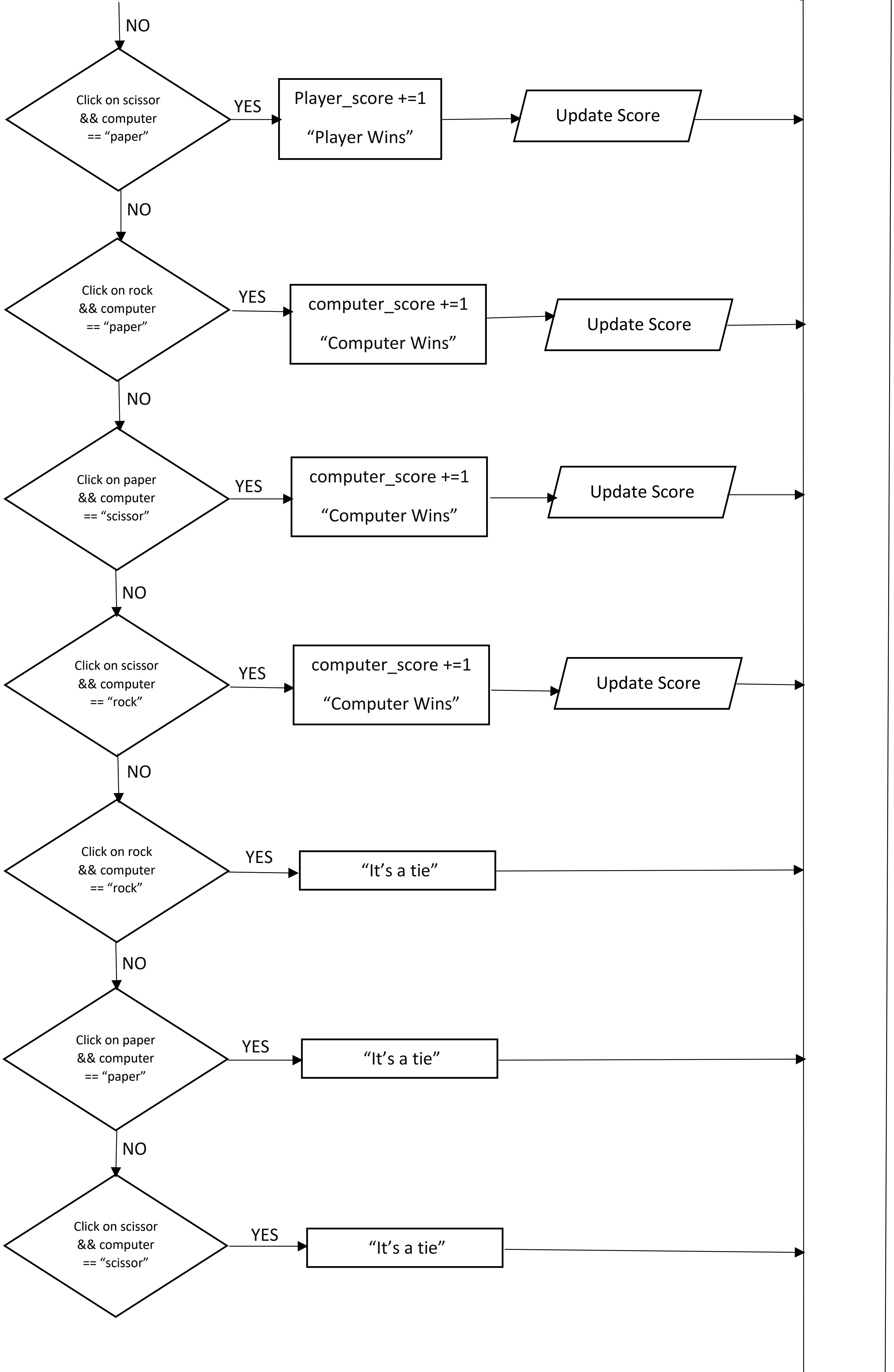
Overview of Custom Program

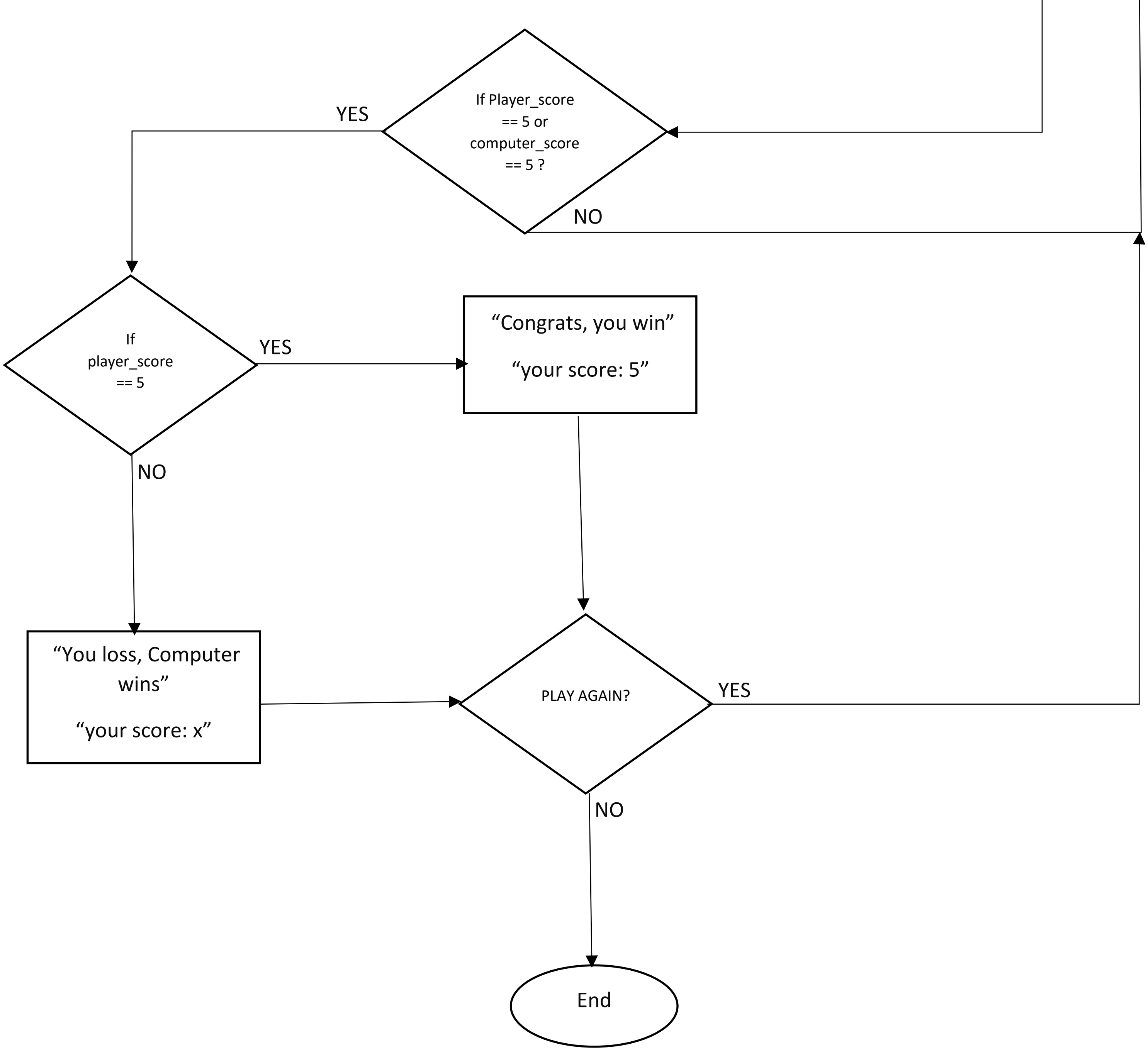
My Program is gonna be a rock paper scissor game, it will basically let the user play a game of rock, paper, scissor against computer. it will be a best of 5, means if the user reaches 5 points before the computer, the user wins the game and if computer reaches 5 points before user, the user loses the game.

It will be made using gosu interface, there will be three images as buttons of rock, paper, scissor, the user would have to choose and click one of them in order to start the game, the computers input will be generated by rand function and if user beats the computer, 1 point will be added to the users score and likewise if computer beats user, 1 point will be added to computers score. There will a image displaying the choice of user and as well as computer above the buttons and there will also be text describing the choice of user as well as computer and describe who wins this round, who loses, and if it's a tie.

Flow Chart of Custom Program



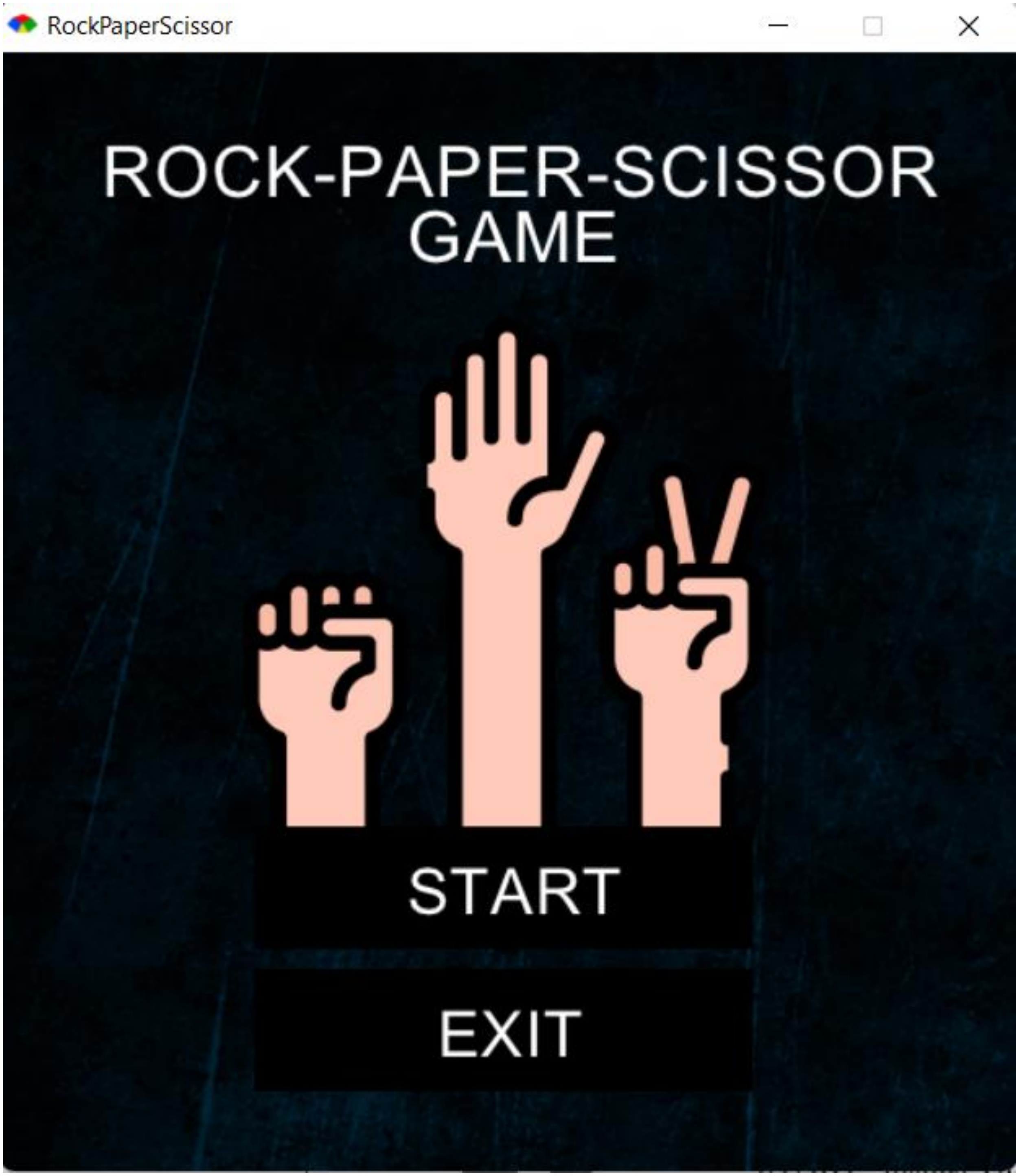

NO
Click on scissor && computer == “paper”
YES
Player_score +=1
“Player Wins”
Update Score
NO
Click on rock && computer == “paper”
YES
computer_score +=1
“Computer Wins”
Update Score
NO
Click on paper && computer == “scissor”
YES
computer_score +=1
“Computer Wins”
Update Score
NO
Click on scissor && computer == “rock”
YES
computer_score +=1
“Computer Wins”
Update Score
NO
Click on rock && computer == “rock”
YES
“It’s a tie”
NO
Click on paper && computer == “paper”
YES
“It’s a tie”
NO
Click on scissor && computer == “scissor”
YES
“It’s a tie”



YES
If Player_score == 5 or computer_score == 5 ?
NO
If player_score == 5
YES
“Congrats, you win”
“your score: 5”
NO
“You loss, Computer wins”
“your score: x”
PLAY AGAIN?
YES
NO
End

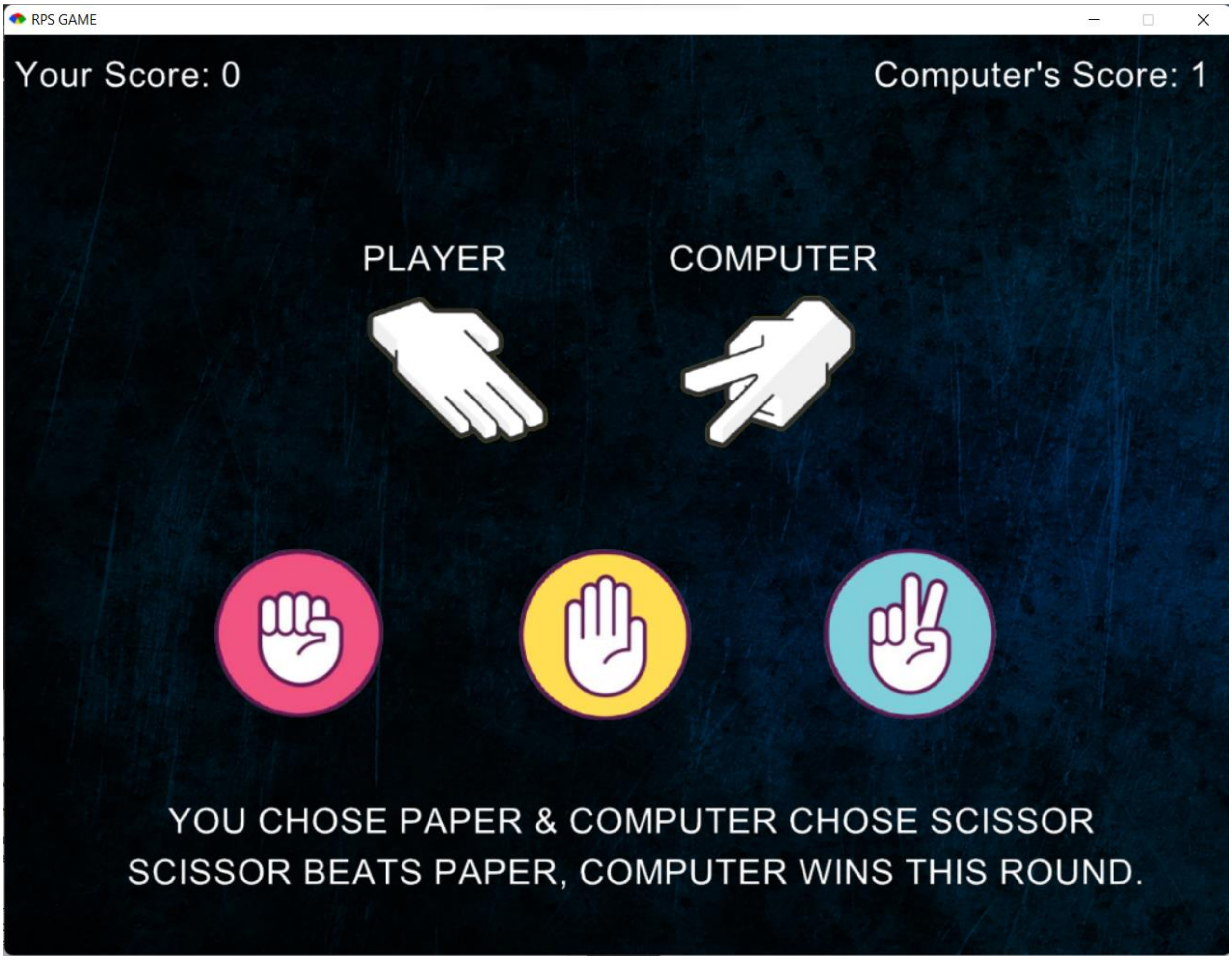
DESCRIPTION OF PROGRAM

1) MAIN MENU INTERFACE



The main menu interface has a size of 500px to 500px which is initialized by def initialized. An image is used as a background for this interface. The caption for this interface is Rock Paper Scissor Game. This acts as a gateway to the main game. The elements like background, button, texts and logo are drawn under functions like draw_background, draw_image, draw_text,draw_button etc which are initialized under def draw. When the Start button area specified (which is initialized by def area_clicked) is clicked by left click of mouse, the The main menu interface closes, and the user is taken to the game interface. Whereas if the Exit button is clicked, the interface closes off.

2. GAME INTERFACE



Your Score: 0

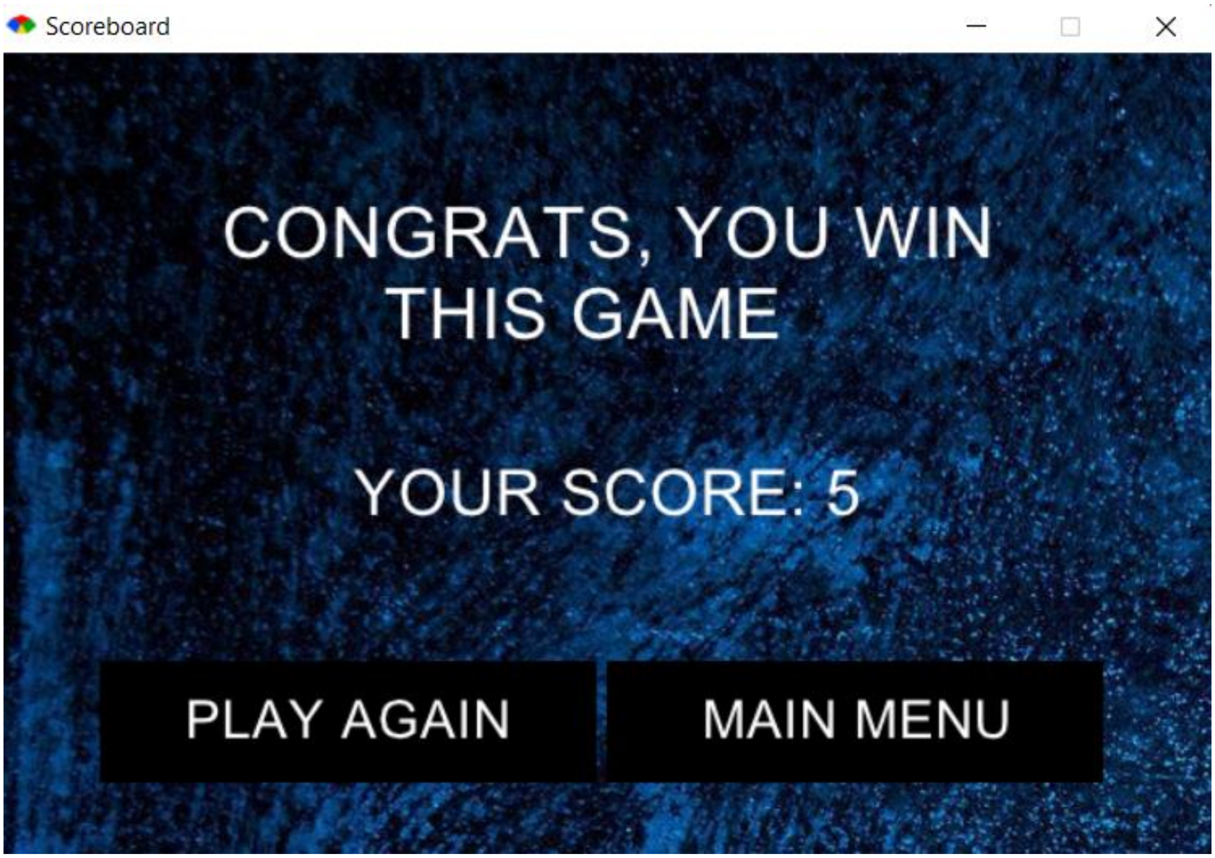
Computer's Score: 1

YOU CHOSE PAPER & COMPUTER CHOSE SCISSOR
SCISSOR BEATS PAPER, COMPUTER WINS THIS ROUND.

The Game interface is initialized by def initialize function under the GameScreen Class, with a screen size of 1200px to 900px. The elements like background, button, texts and logo are drawn

under functions like draw_background, draw_text, draw_button, draw_image etc which are initialized under def draw. The program is made with the help of conditional statements and rand() function. The area where rock, paper, scissor buttons are places, is mapped and specified under conditional statements, when the area is clicked by left click of mouse, which is initialized by the help of def area_clicked and def button_down, the conditional program checks with computer function as well, and if the condition is true then the conditional statement is carried out which adds one to the user or computers score depending on the conditional statement, and appropriate dialogue is displayed below specifying the context of the game, and lastly appropriate image is displayed, visually specifying the choice of the user and the computer.
The loop is repeated until the user or computer scores 5 points which is checked under def update, and then the score of the user is passed on to def writescore, where the users score is stored in a scores.txt file. Then the interface is closed and the scoreboard interface is initialized.

3. SCOREBOARD INTERFACE



CONGRATS, YOU WIN
THIS GAME

YOUR SCORE: 5

The Scoreboard interface is initialized by def initialize function under the GameScreen Class, with a screen size of 600px to 400px. The elements like background, button and text are drawn under functions like draw_background, draw_text, draw_button, etc which are initialized under def draw. The score of the user is read under def readscore by interpreting the scores.txt. which is then displayed to user by def draw_draw. The score is also assessed through a conditional statement, if the score is equal to 5, then a message is displayed that user has won this game along with his score, however is the score is not equal to 5, then a message is displayed that user lost the game and computer has won the game along with his score. Then, When the Play Again button area specified (which is initialized by def area_clicked) is clicked by left click of mouse, the scoreboard interface closes, and the user is taken back to the game interface. Whereas if the Main Menu button is clicked, the scoreboard interface closes, and the user is taken back to the main menu interface.