TASK4-ROCK PAPER SCISSORS GAME

PROJECT TITLE:

Rock Paper Scissors Game

DESCRIPTION:

This is a GUI-based Rock-Paper-Scissors game where a user plays against the computer. The application displays the choices, maintains scores, and shows game history.

FEATURES:

1.CustomTkinter GUI with buttons for Rock, Paper, and Scissors.
2.Random choice generation for computer opponent.
3.Score tracking, result display, and history.
4.Option to save game history to a text file.

TECHNOLOGIES USED:

1.Python
2.CustomTkinter
3.random module

TARGET USERS:

1.General users, casual gamers, students.
2.Learning aid for understanding GUI programming and basic game logic.

APPENDIX:

RPSGame.py

```
import customtkinter as ctk
import random
#Creating a class named RPSGame
class RPSGame(ctk.CTk):
   def __init__(self):
      super().__init__()
      self.title("Rock Paper Scissors")
      self.configure(fg_color="#1e1e1e")
      self.resizable(False,False)
   #Setting the initial Scores and round!
      self.user_score=0
      self.com_score=0
      self.round_no=1
      self.history_lines=[]

      self.create_widgets()
   #Creating the widgtes!
   def create_widgets(self):
      self.title_label=ctk.CTkLabel(self,text="Rock Paper
Scissors",font=("Arial",28,'bold'),text_color="white")
      self.title_label.pack(pady=20)
      #creating the buttons rock,paper,scissors
      self.button_frame = ctk.CTkFrame(self,fg_color="transparent")
      self.button_frame.pack(pady=30)
      self.rockbtn =
ctk.CTkButton(self.button_frame,text="Rock",width=120,comman
d=lambda:self.play("rock"))
      self.rockbtn.grid(row=0,column=0,padx=15)

self.paperbtn=ctk.CTkButton(self.button_frame,text="Paper",widt
h=120,command=lambda:self.play("paper"))
      self.paperbtn.grid(row=0,column=1,padx=15)

self.scissorsbtn=ctk.CTkButton(self.button_frame,text="Scissors",
width=120,command=lambda:self.play("scissors"))
```

```
        self.scissorsbtn.grid(row=0,column=2,padx=15)
        self.result_label =
ctk.CTkLabel(self,text="",font=("Arial",20),text_color='white')
        self.result_label.pack(pady=10)
        self.score_label=ctk.CTkLabel(self,text="YOU: 0 || COMPUTER:
0",font=("Arial",18),text_color='white')
        self.score_label.pack(pady=10)
        self.history_label= ctk.CTkLabel(self,text="Game
History",font=("Arial",16,'bold'),text_color='white')
        self.history_label.pack(pady=(10,0))

self.hist_box=ctk.CTkTextbox(self,width=700,height=150,font=("A
rial",14))
        self.hist_box.pack(pady=10)
        self.hist_box.configure(state="disabled")
        self.bottomframe=ctk.CTkFrame(self,fg_color="transparent")
        self.bottomframe.pack(pady=10)
        self.resetbtn =ctk.CTkButton(self.bottomframe,text="Play
Again",command=self.reset,width=150)
        self.resetbtn.grid(row=0,column=0,padx=10)
        self.savebtn=ctk.CTkButton(self.bottomframe,text="Save
History to file",command=self.save_history,width=200)
        self.savebtn.grid(row=0,column=1,padx=10)


    def play(self,user_choice):
        options=['rock','paper','scissors']
        comp_choice=random.choice(options)

        if user_choice == comp_choice:
            result = "It's a Tie!!"
            color ="#cccccc"
        elif (user_choice == 'rock' and comp_choice == 'scissors') or \
            (user_choice == 'scissors' and comp_choice == 'paper') or  \
            (user_choice == 'paper' and comp_choice == 'rock'):
            result ="You Win!!"
            self.user_score+=1
            color = "#00cc66"
        else:
```

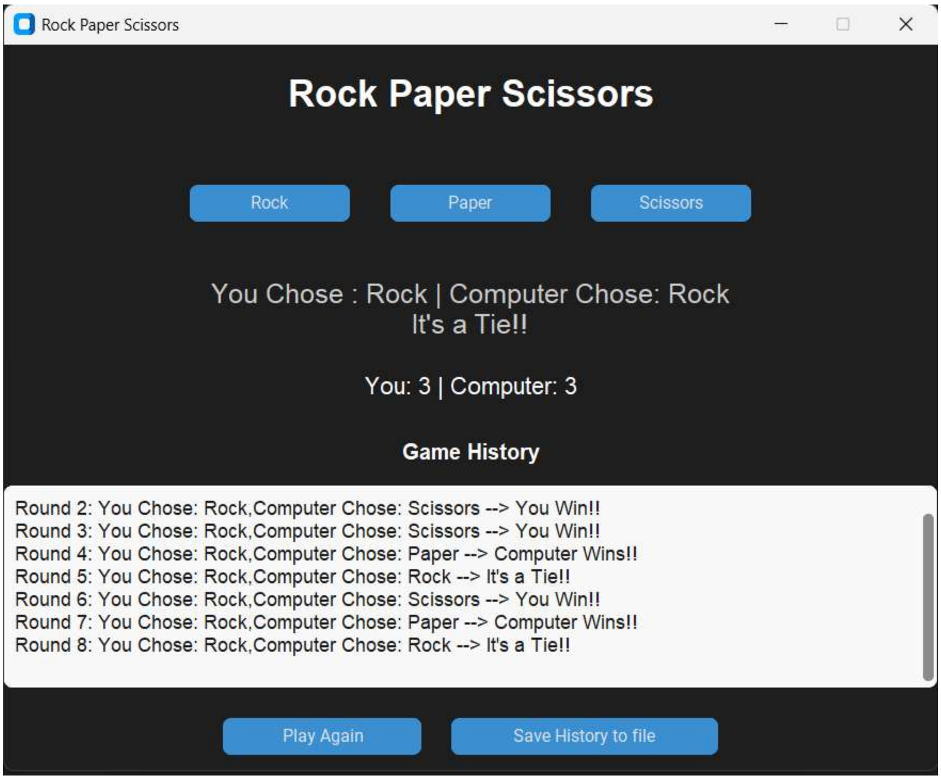
```
      result = "Computer Wins!!"
      self.com_score+=1
      color = "#ff4444"

    self.result_label.configure(text=f"You Chose :
{user_choice.capitalize()} | Computer Chose:
{comp_choice.capitalize()}\n{result}",text_color=color)
    self.score_label.configure(text=f"You: {self.user_score} |
Computer: {self.com_score}")
    history_entry = f"Round {self.round_no}: You Chose:
{user_choice.capitalize()},Computer Chose:
{comp_choice.capitalize()} --> {result}"
    self.history_lines.append(history_entry)
    self.hist_box.configure(state = 'normal')
    self.hist_box.insert('end',history_entry+"\n")
    self.hist_box.see('end')
    self.round_no+=1

  def reset(self):
    self.user_score = 0
    self.com_score = 0
    self.round_no = 1
    self.result_label.configure(text="",text_color='white')
    self.score_label.configure(text="You: 0 | Computer: 0")
    self.history_lines=[]
    self.hist_box.configure(state= 'normal')
    self.hist_box.delete("0.0","end")
    self.hist_box.configure(state="disabled")
  def save_history(self):
    with open("rps_game.txt","w",encoding="utf-8") as file:
      for line in self.history_lines:
        file.write(line + "\n")
    self.result_label.configure(text="History Saved to
rps_game.txt",text_color="yellow")

#launching the game.
app=RPSGame()
app.mainloop()
```

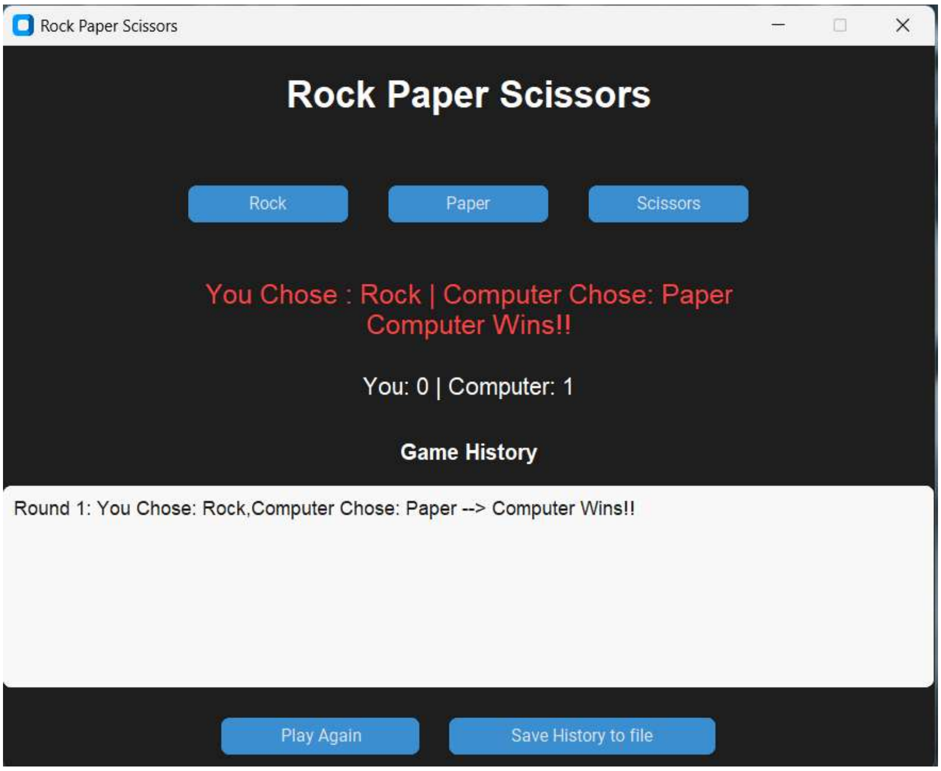
OUTPUTS:



You Chose : Rock | Computer Chose: Rock
It's a Tie!!

You: 3 | Computer: 3

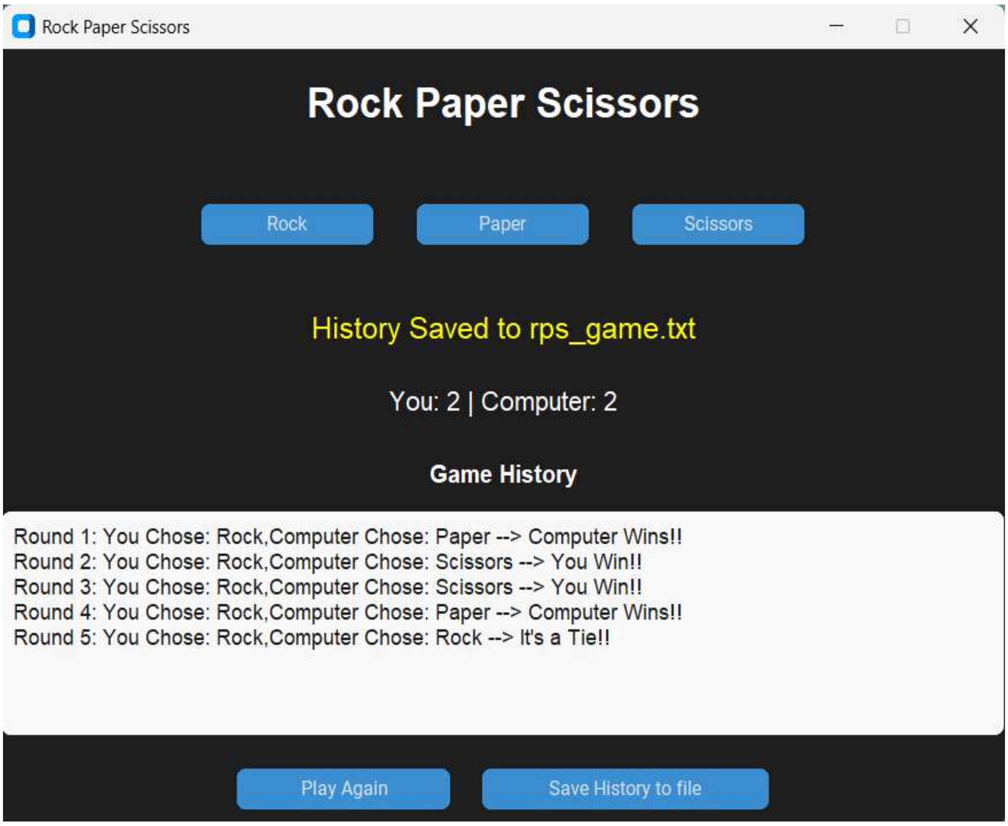
```
Round 2: You Chose: Rock,Computer Chose: Scissors --> You Win!!
Round 3: You Chose: Rock,Computer Chose: Scissors --> You Win!!
Round 4: You Chose: Rock,Computer Chose: Paper --> Computer Wins!!
Round 5: You Chose: Rock,Computer Chose: Rock --> It's a Tie!!
Round 6: You Chose: Rock,Computer Chose: Scissors --> You Win!!
Round 7: You Chose: Rock,Computer Chose: Paper --> Computer Wins!!
Round 8: You Chose: Rock,Computer Chose: Rock --> It's a Tie!!
```



You Chose : Rock | Computer Chose: Paper
Computer Wins!!

You: 0 | Computer: 1

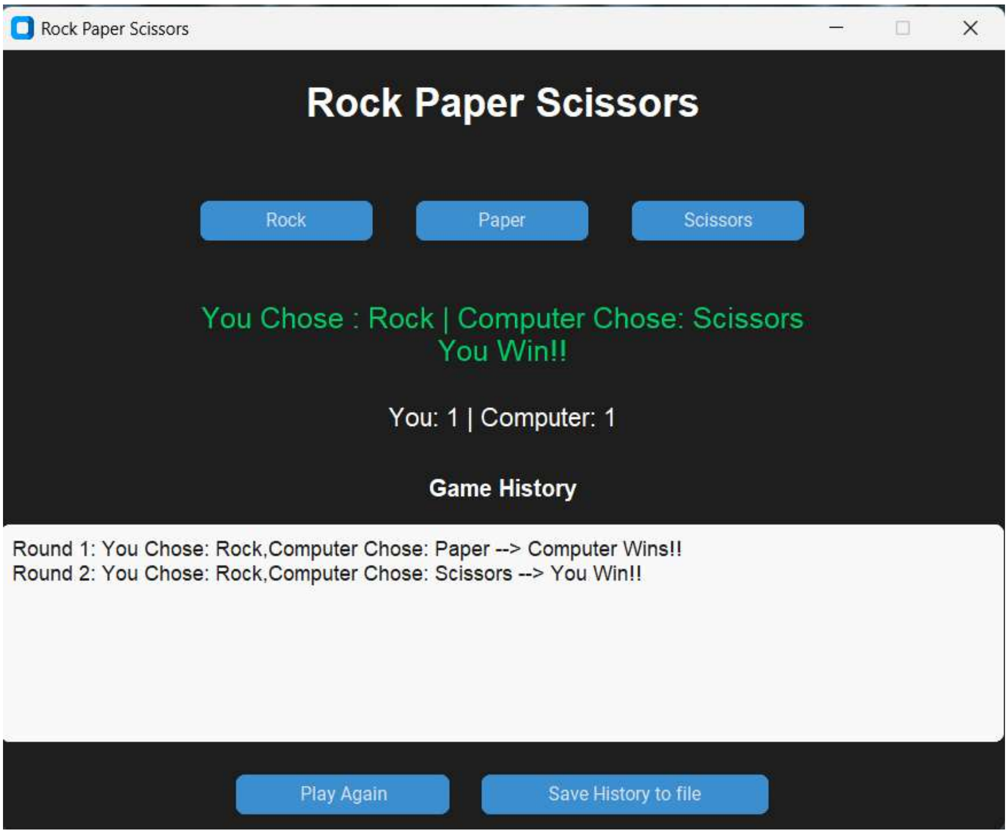
```
Round 1: You Chose: Rock,Computer Chose: Paper --> Computer Wins!!
```



History Saved to rps_game.txt

You: 2 | Computer: 2

```
Round 1: You Chose: Rock,Computer Chose: Paper --> Computer Wins!!
Round 2: You Chose: Rock,Computer Chose: Scissors --> You Win!!
Round 3: You Chose: Rock,Computer Chose: Scissors --> You Win!!
Round 4: You Chose: Rock,Computer Chose: Paper --> Computer Wins!!
Round 5: You Chose: Rock,Computer Chose: Rock --> It's a Tie!!
```



You Chose : Rock | Computer Chose: Scissors
You Win!!

You: 1 | Computer: 1

```
Round 1: You Chose: Rock,Computer Chose: Paper --> Computer Wins!!
Round 2: You Chose: Rock,Computer Chose: Scissors --> You Win!!
```