



ROCK • PAPER • SCISSORS

A Python Game Report

Submitted in partial fulfilment of the requirements for the award of degree of

Bachelor Of Technology Computer Science & Engineering

Submitted To

-:Professor:-
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Acknowledgement

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Introduction

In this project I will make a Rock,Paper,Scissors game and play against the computer.

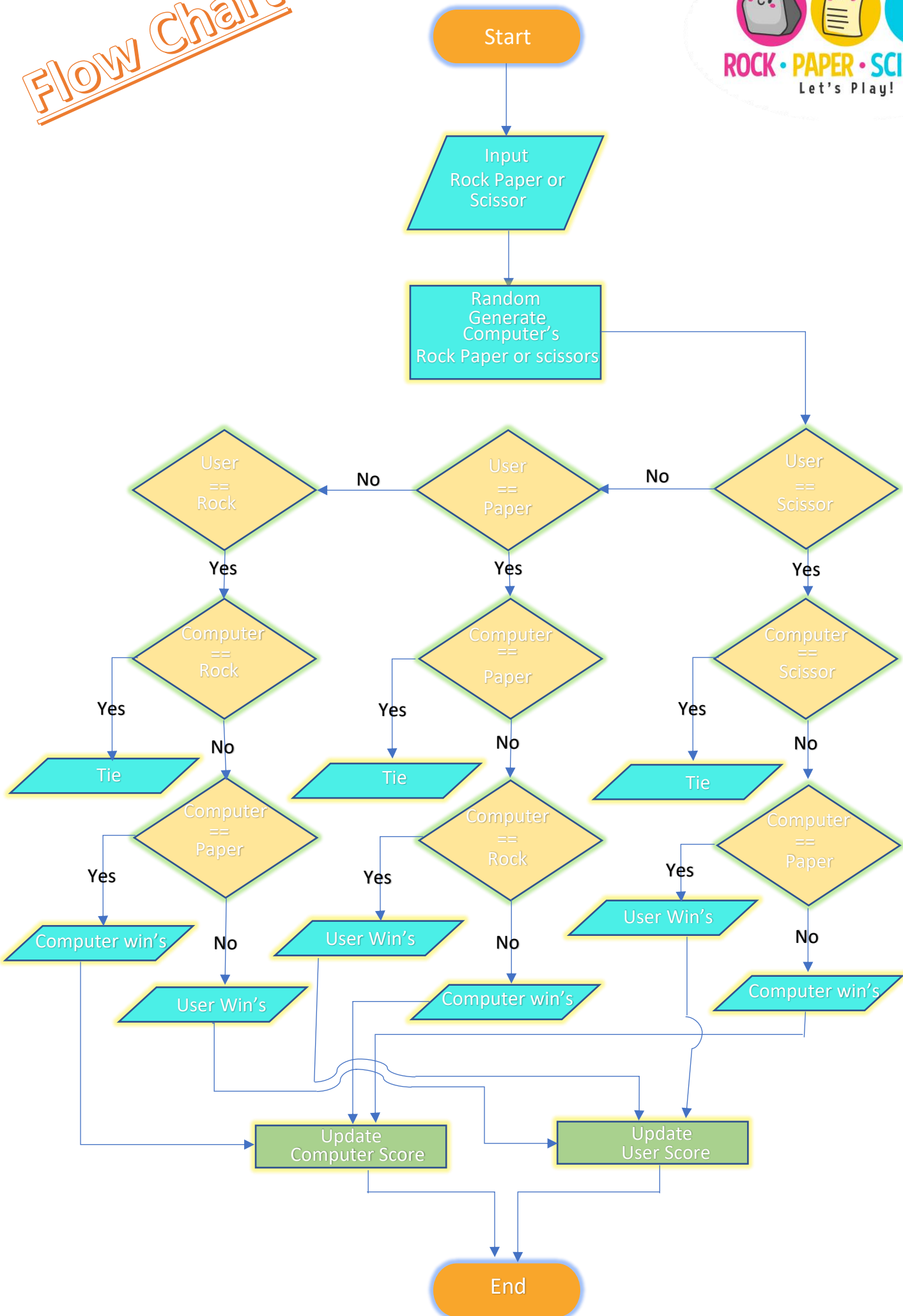
In this game,user gets the first chance to pick the option among Rock ,Paper ,Scissor.After that computer select random choices,then winner is decided as per the rules.

Rules: You and the computer choose rock,paper or scissors.The winner is decided by these rules:

- Rock blunts scissors
- Paper cover rock
- Scissors cut paper

One More things is that this is a Graphical game and I hope you will enjoy while playing and this made my game different from others

Flow Chart





- :Modules Used:

- ✚ **Tkinter** : It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications.
- ✚ **Random** : Python defines a set of functions that are used to generate or manipulate random numbers through the random module.
- ✚ **PIL** : Python Imaging Library (expansion of PIL) is the de facto image processing package for Python language. It incorporates lightweight image processing tools that aids in editing, creating and saving images.
- ✚ **PyGame** : This module contains classes for loading Sound objects and controlling playback.



GUI Implementation

Image processing and handling:-

- Import Python Module Tkinter to execute GUI applications.
- From PIL Import ImageTk, Image for image processing.
- Import random which will help the computer to select options rock, paper, or scissor randomly.
- Now an object is created root which is the main window object.
 - Make Title of window:RPS_Project
- Now we Create labels on GUI window:-
 - l1=Game Label
 - l2=User logo
 - l3=Computer logo
 - l4=User Label
 - l5=Computer Label
 - l6=User Score
 - l7=Computer score
 - l8=User respond
 - l9=Computer respond
 - l10=Result of each round
- Now labels are placed on window:-
 - l1=row=0, column=2
 - l2=row=1, column=1
 - l3=row=1, column=3
 - l4=row=2, column=1
 - l5=row=2, column=3
 - l6=row=3, column=1
 - l7=row=3, column=3
 - l8=row=5, column=1
 - l9=row=5, column=3
 - l10=row=5, column=2

For Default Image:

- ✚ An variable named **paper_img** is used to open the default image for user. This will be shown at default condition in the game at the place of the player.
- ✚ An variable named **cpaper_img** is used to open the default image for computer. This will be shown at default condition in the game at the place of the computer.

Images **paper_img** and **cpaper_img** are loaded by using Tk.PhotoImage.

For Rock Image:

- ✚ An variable named **rock_img** is used to open the rock image. This will be shown at the user side when the player selects rock in the game.
- ✚ An variable named **crock_img** is used to open rock image .This will be shown at computer's side when the computer randomly selects rock in the game.



rock_img



crock_img

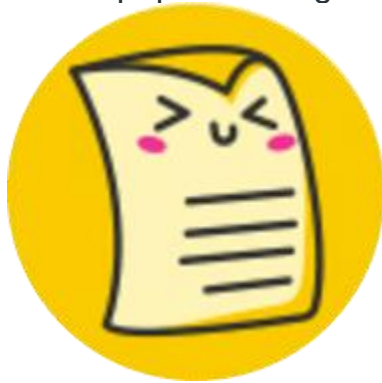
Images **rock_img** and **crock_img** are loaded by using Tk.PhotoImage.

Ref:<https://logopond.com/brandsbysam/showcase/detail/271676>

For Paper Image:

- ✚ An variable named **paper_img** is used to open the paper hand image. This will be shown at the user side when the player selects paper in the game.

- ✚ An variable named `cpaper_img` is used to open paper image. This will be shown at the computer's side when the computer randomly selects paper in the game.



`paper_img`



`Cpaper_img`

Images `paper_p` and `paper_c` is loaded by using `Tk.PhotoImage`.

Ref: <https://logopond.com/brandsbysam/showcase/detail/271676>

For Scissors Image

- ✚ An variable named `scissor_img` is used to open the scissor image. This will be shown at user side when player selects scissor in the game.
- ✚ An variable named `cscissor_img` is used to open scissor image. This shown at computer's side when computer randomly selects scissor in the game.



Images `scissor_p` and `scissor_c` are by using `Tk.PhotoImage`.

Ref: <https://logopond.com/brandsbysam/showcase/detail/271676>



Game Implementation

+ A **updateChoice** function is defined in which we have a list **choices** select having values rock, paper, and scissors.

+ Here random.choice randomly selects options 0-2 for computer.

+ Set image for User:-

- If Player selects (Rock) then Show rock image in user respond label.
- If Player selects (Paper) then Show rock image in user respond label.
- If Player selects (Scissor) then Show rock image in user respond label.

+ Set image for Computer:-

- If Computer selects (Rock) then Show rock image in computer respond label.
- If Computer selects 2 (Paper)) then Show rock image in computer respond label.
- If Computer selects 3 (Scissor)) then Show rock image in computer respond label.

+ Obtaining the Message:-

- If Player chooses Rock and computer chooses Rock OR If the player chooses Paper and the computer chooses Paper OR If the player chooses Scissor and the computer chooses Scissor. Message Shown **"ITS TIE !!!"**
- If the Player chooses Rock and computer choose Scissor OR If the player chooses Paper and computer choose Rock OR If the player chooses Scissor and computer choose Paper. Message Shown **"***YOU WIN***"**
- Else Message Shown **"~~~YOU LOOSE~~~"**



+ Buttons:-

- **Rock** Button Selects choice Rock in function updateChoice and Shows an Image of rock On User side.
- **Paper** Selects choice Paper in function updateChoice and Shows an Image of paper On User side.
- **Scissor** Selects choice Scissor in function updateChoice and Shows an Image of Scissor On the User side.

+ Score evaluation and display:-

❖ Updating Score:-

- If Player chooses Rock and computer chooses Rock OR If the player chooses Paper and the computer chooses Paper OR If the player chooses Scissor and the computer chooses Scissor
Then, **No Updation in Score.**
- If the Player chooses Rock and computer choose Scissor OR If the player chooses Paper and computer choose Rock OR If the player chooses Scissor and computer choose Paper
Then, **user_score+=1.**

- Else, **comp_score+=1**

❖ Change font color of Score of Both(comp_score & user_score):-

- Check current score of user_score and comp_score and if $\text{comp_score} > \text{user_score}$:
then, font_color changed for
comp_user = **Green**
user_score = **Red**
.
- Elif $\text{comp_score} < \text{user_score}$:
then, font_color changed for
comp_user = **Red**
user_score = **Green**
- else:
comp_user = **Yellow**
user_score = **Yellow**



Screenshot

