

# SYNOPSIS PYTHON PROJECT



**L** OVELY  
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PROJECT REPORT

*by*

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Tic-Tac-Toe  
Game with  
Timer System

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2020

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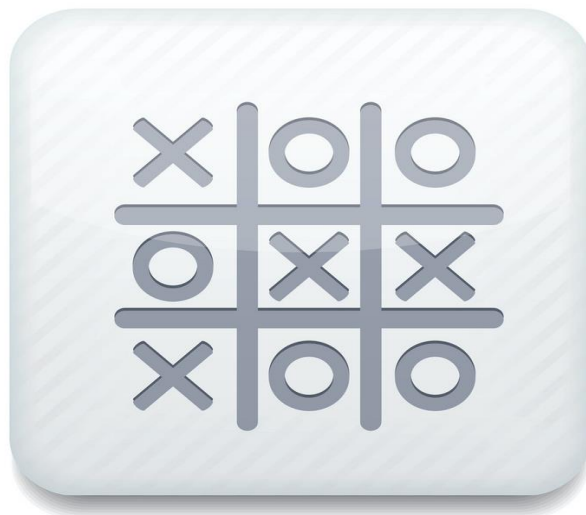
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# Introduction of the project Tic-Tac-Toe:

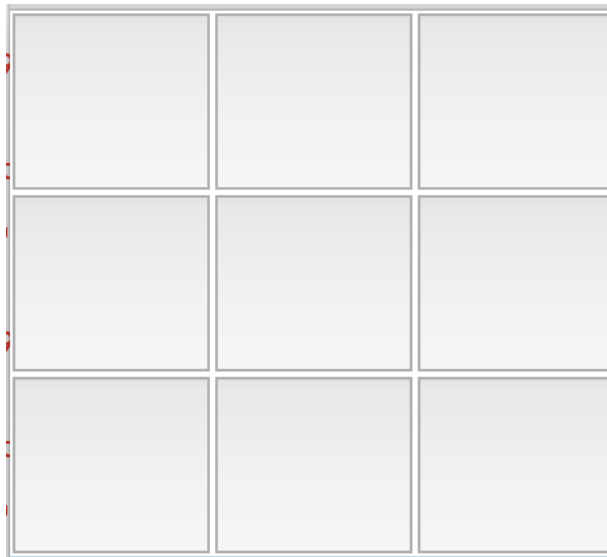
The “Tic tac toe game with Timer system” has been developed to enjoy and it is a great way to de-stress from the hectic life schedule. Not only that this game can turn boring situations into fun ones considering the fact that tic tac toe is a very user friendly game and the idea of this game has been introduced way long back makes the user reminiscences of their childhood, their times back in schools where digital games were not a thing. But this project unlike we used to play back in the days has a timer within it, that makes the tic tac toe game more competitive and time saving at the same time.

We tend to make this project more user friendly so as to reach many people from all age background can play easily, from young kids to senior citizens. It creates a stronger connection to your inner child that can help you to be happier and enjoy life more fully.



# **OVERVIEW:**

- Tic tac toe game is played in a 3\*3 grid.
- The game can be played by two players at a time.



3\*3 grid

# **GAME STRATEGY:**

The Tic-Tac-Toe game has many strategies that can be used. The main point of the strategy is the players have to block the opponent fork, either horizontally , vertically, or diagonally, while the players have to find their own fork to win.

## **THEORY OF GAME:**

A player can choose between two symbols with his opponent, i.e, “X” and “O”. If the first player choose “X” then the second players have to play with “O” and vice versa.

A player marks any of the 3\*3 squares with his symbol( either “X” or “O”) and he aims to create a straight line horizontally , vertically or diagonally with two intentions:

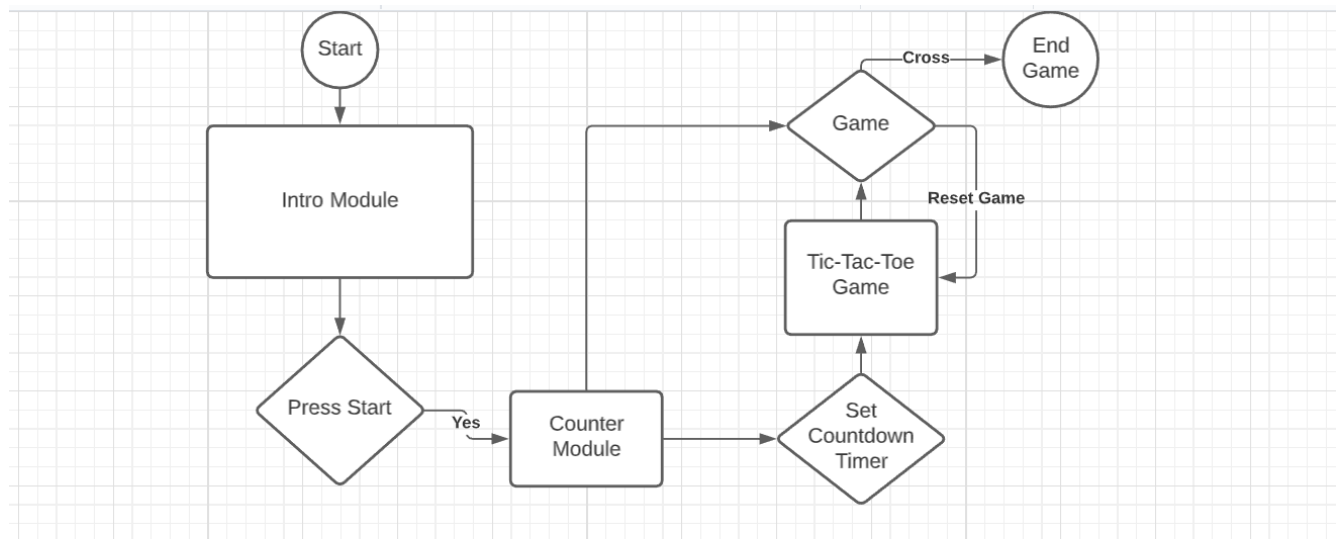
1. Creating straight line to win against the opponent.
2. Creating straight line to restrict opponents move

Sometimes no players tend to create a straight line with their “x” and “O” , in that case the Game results in TIE

### **Game Rules**

1. Traditionally the first player plays with "X". So you can decide who wants to go "X" and who wants go with "O".
2. Only one player can play at a time.
3. If any of the players have filled a square then the other player and the same player cannot override that square.
4. There are only two conditions that may be match will be draw or may be win.
5. The player that succeeds in placing three respective mark (X or O) in a horizontal, vertical or diagonal row wins the game.

# Flowchart



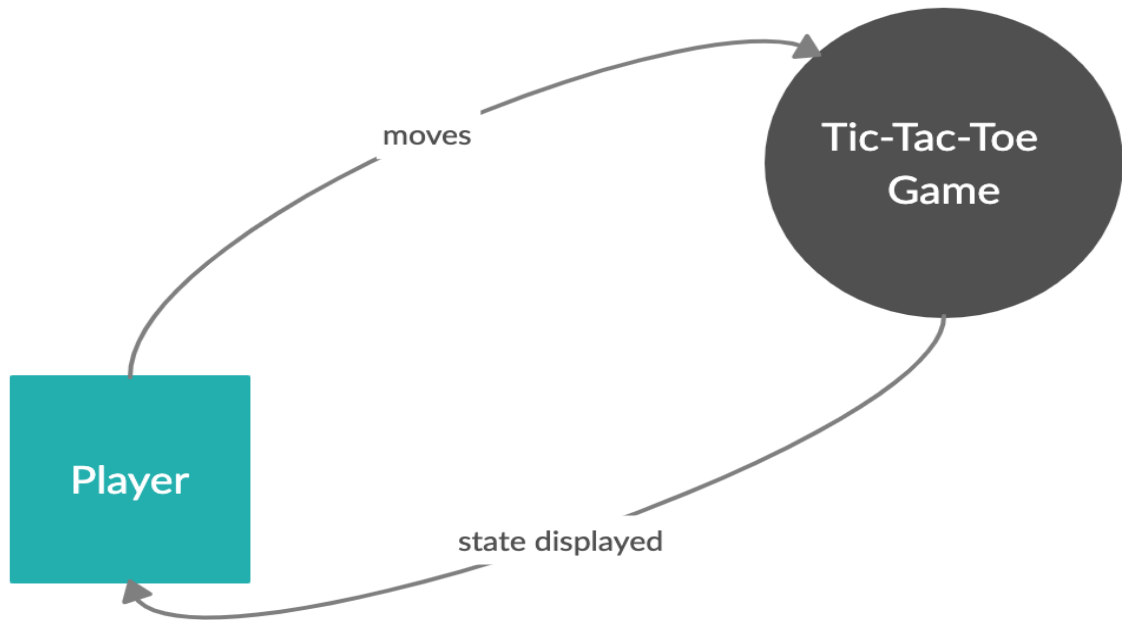
Python Project Flow Chart  
Kartik and Tenzin

There are Three modules

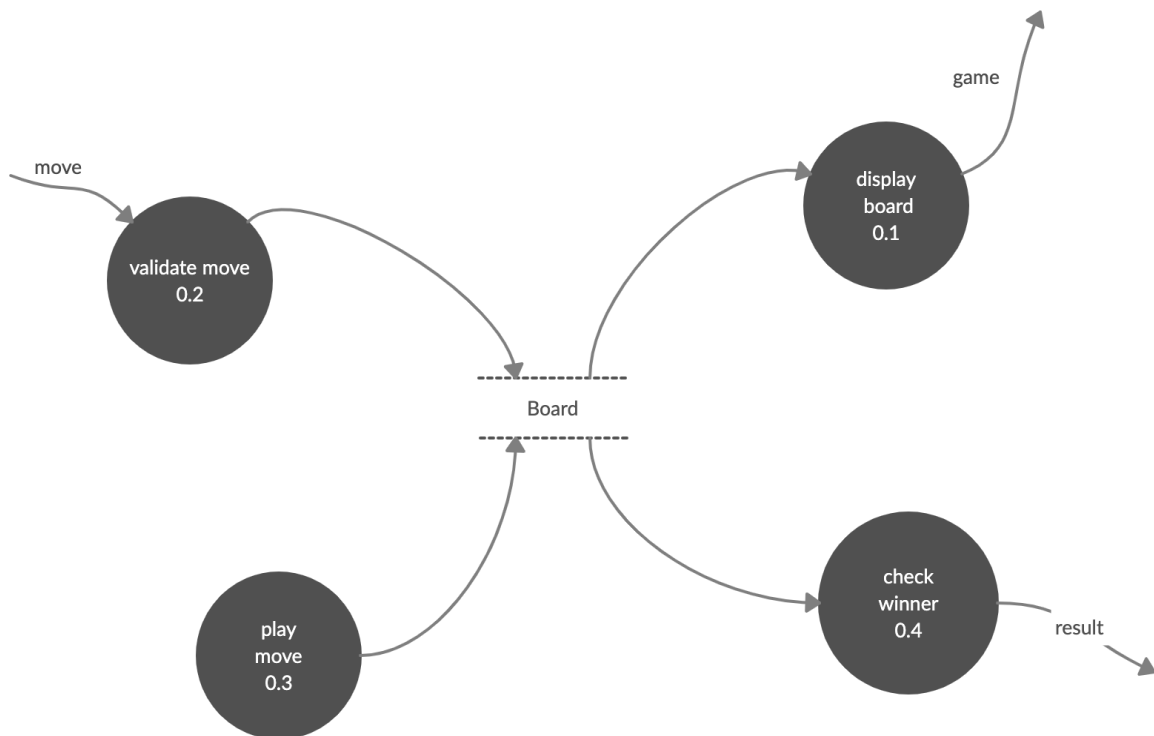
- Intro Module
- Timer Module
- Game Module

These are connected together in the shown way in the flowchart and the Tic-Tac-Toe Game works with the Timer Module to make it a Time based Tic-Tac-Toe Game.

## Data Flow Diagram:

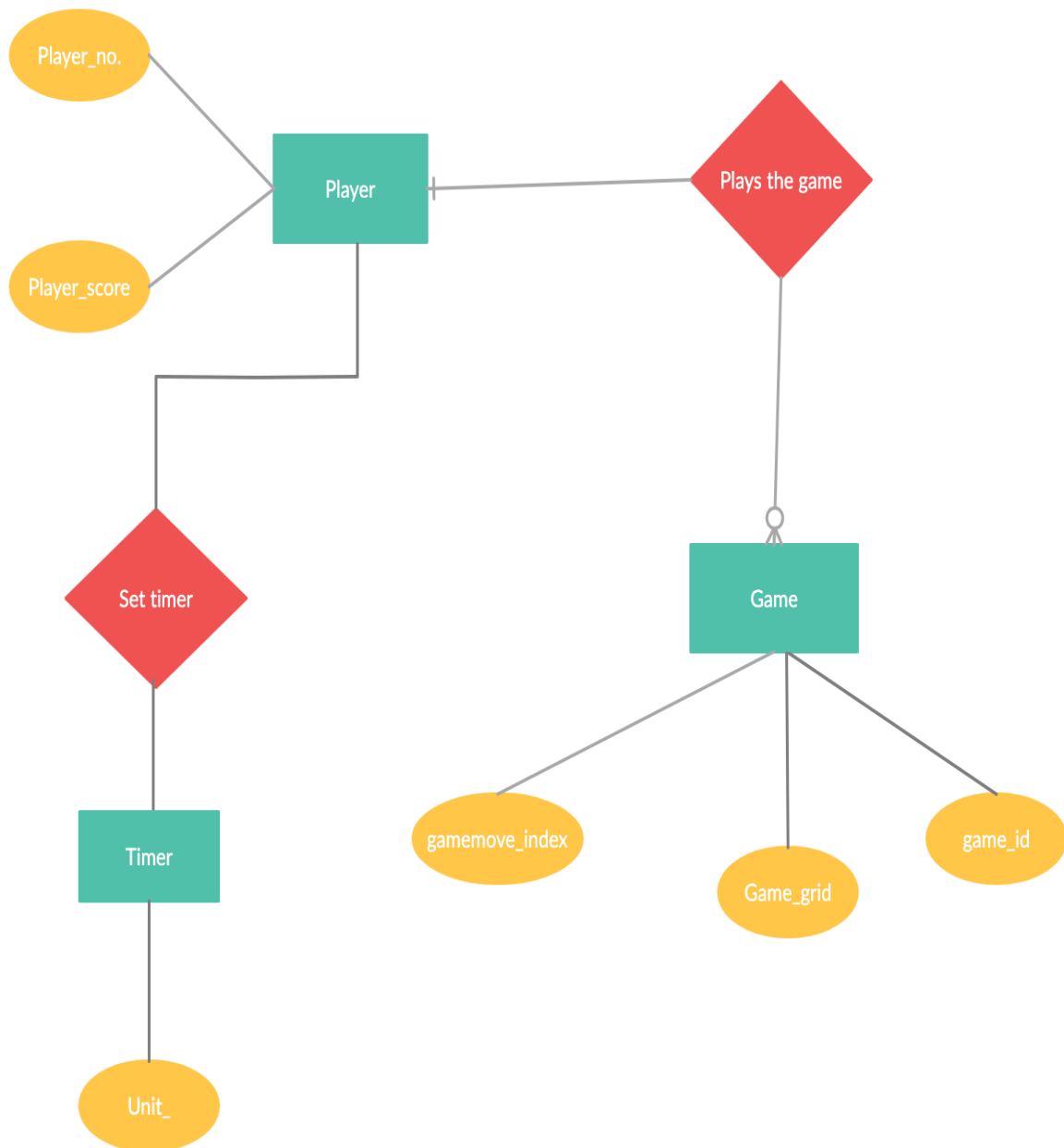


## O level DFD



## Level 1 DFD

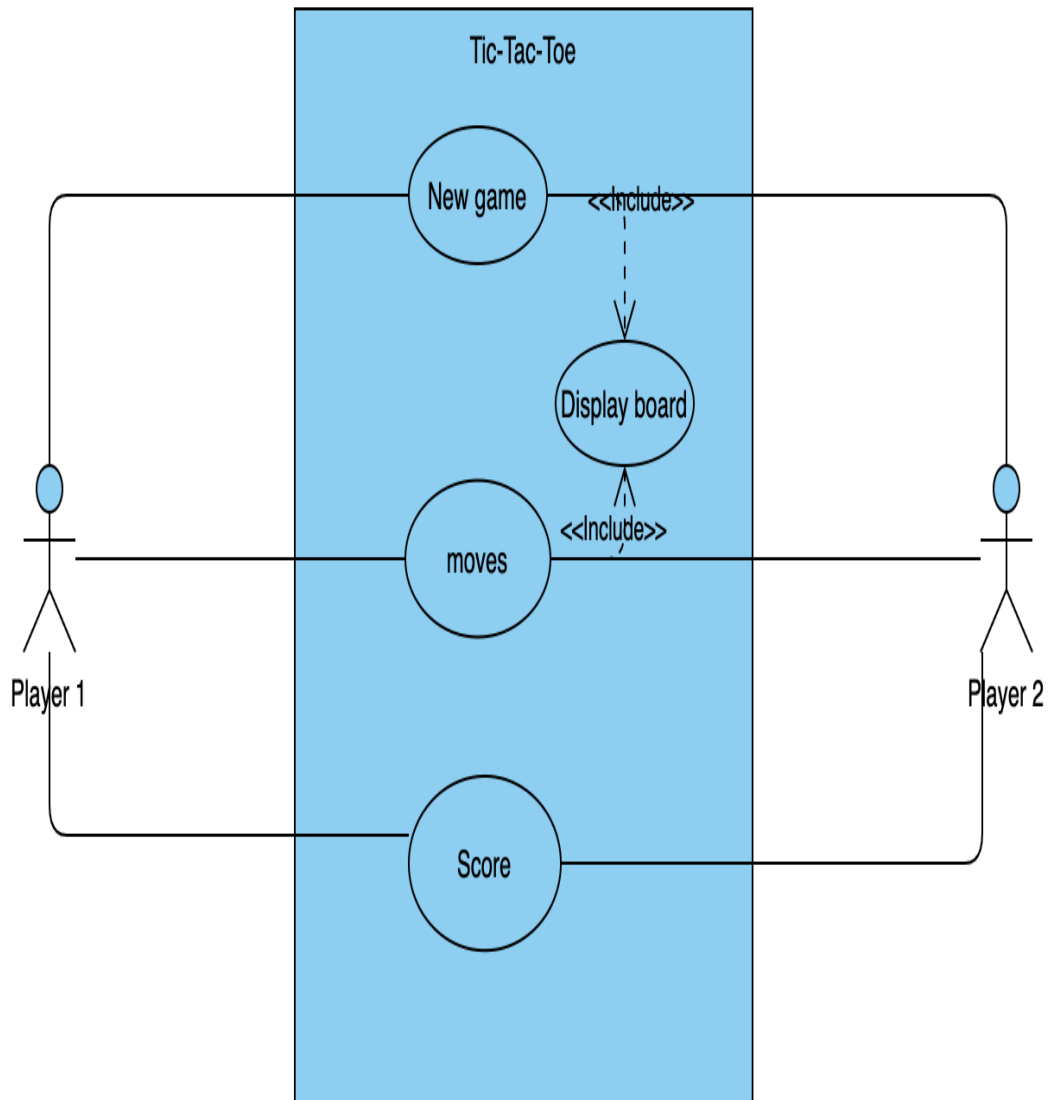
### ER Diagram:





## Use Case Diagram:

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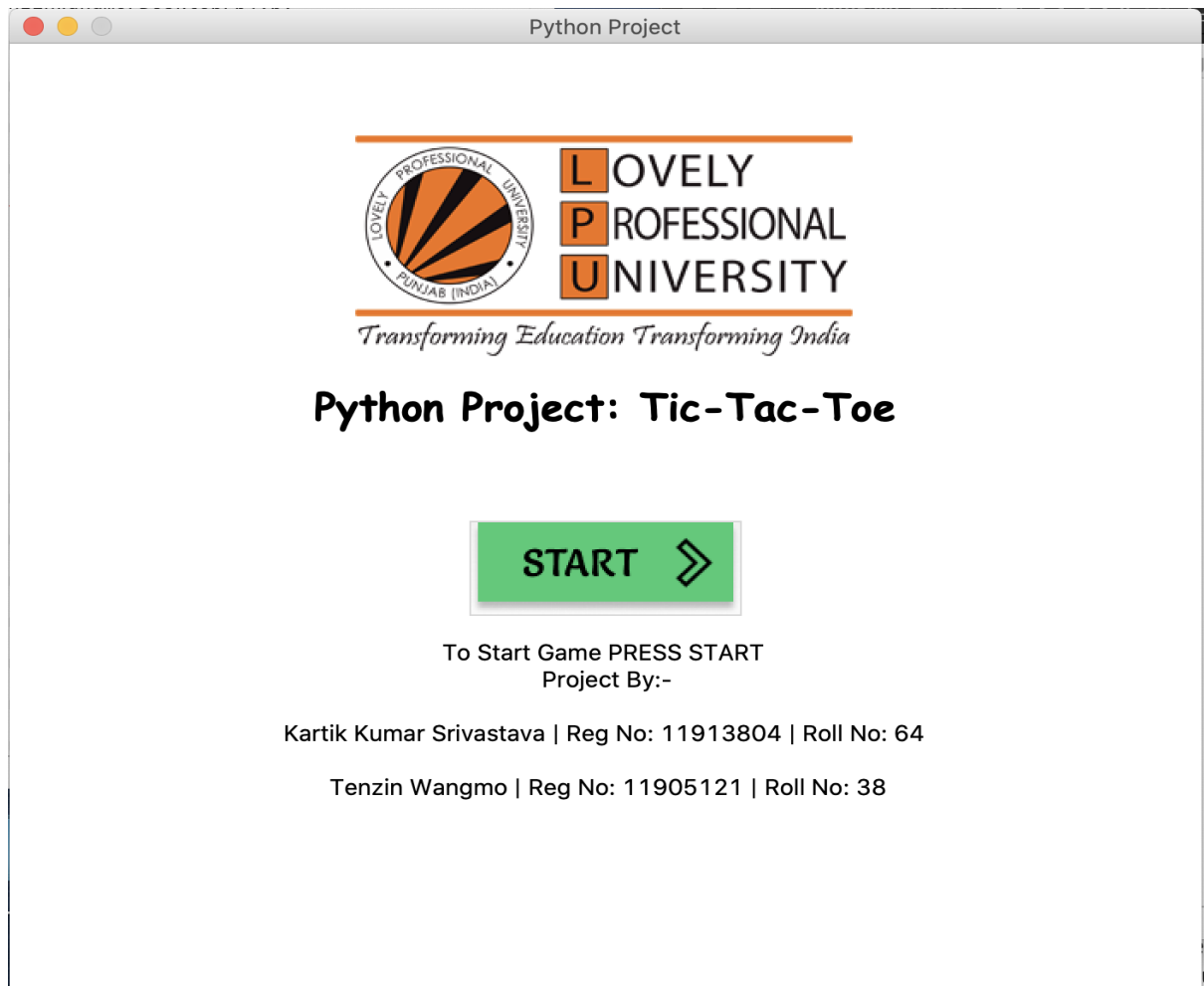


# EXPLANATION OF MODULES:

## ***First Module: Intro Module-***

Basically in this module we made a dedicated cover module where our names, roll no , project name and our university cover page were mentioned.

It also consist of a START button where the actual game begins.

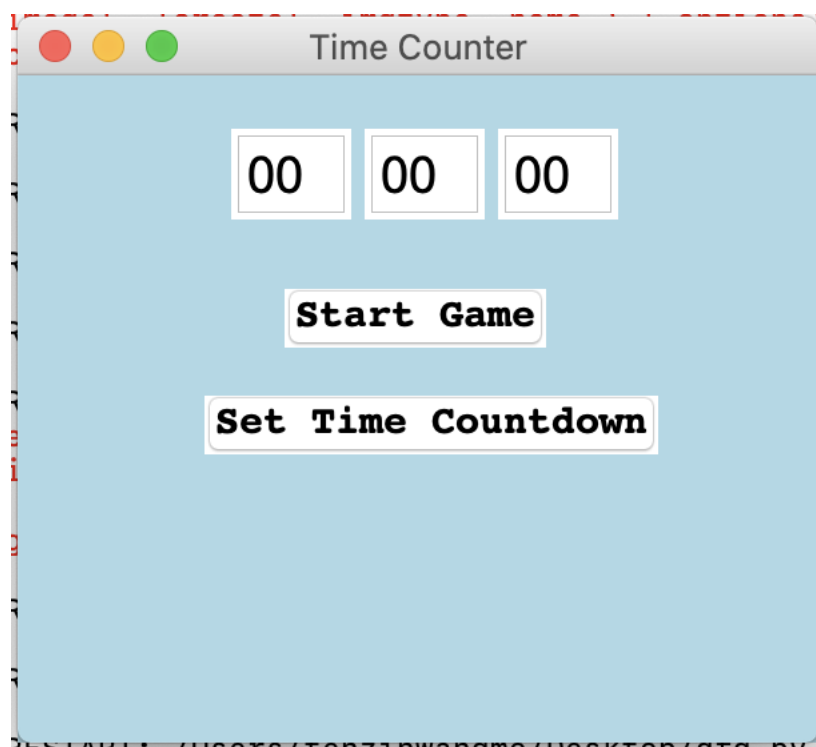


**SCREENSHOT OF 1<sup>ST</sup> MODULE**



This start button will lead to a another window i.e the second module.  
[ by using the exec() functions , we can execute another file]

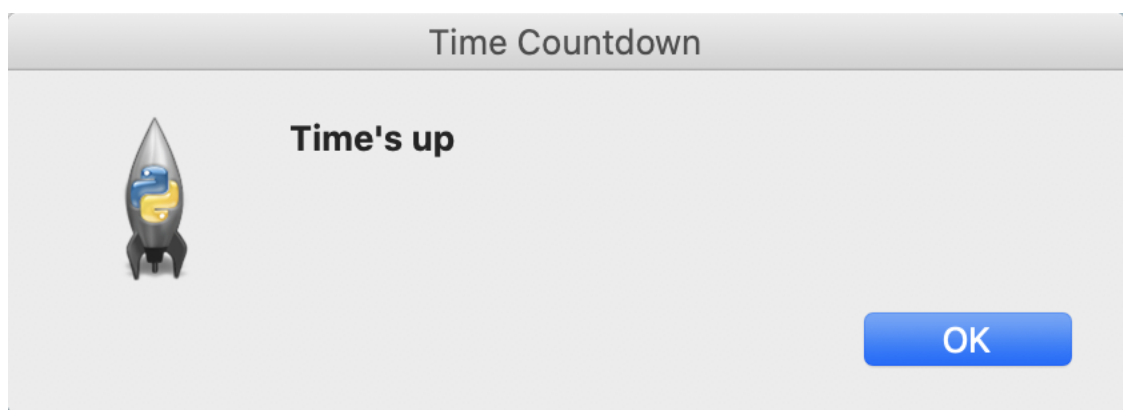
## **Second Module: Timer Module**



In this module, Timer feature has been developed. There are 3 sections i.e in hour, minute and in seconds. User can insert any time of their choice. Starting from leftmost box hour section is present, in the middle minute and and last seconds.

Once users decides the timing, Clicking on the START GAME button will lead to another window where the TIC TAC TOE game actually begins. After the game window opens, Click on the SET TIME COUNTDOWN button where the timer starts working in decremental form.

Once the time is over, message box of “TIME’S UP” will pop up and that way all the buttons are disabled.



### **Third Module: Game Module**

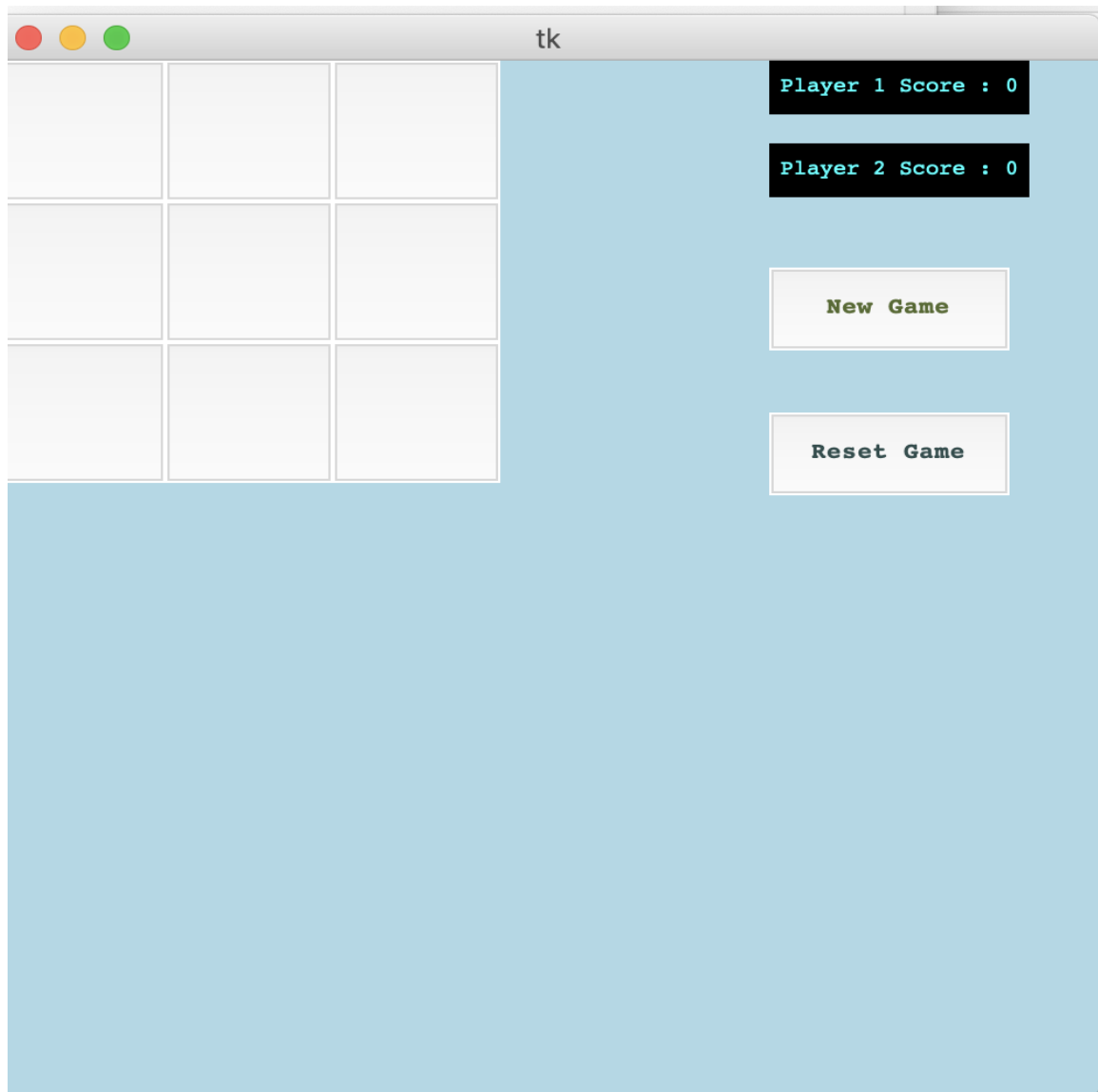
In this module, actual game starts.

Two players, player 1 and player 2 with their respective score boards.

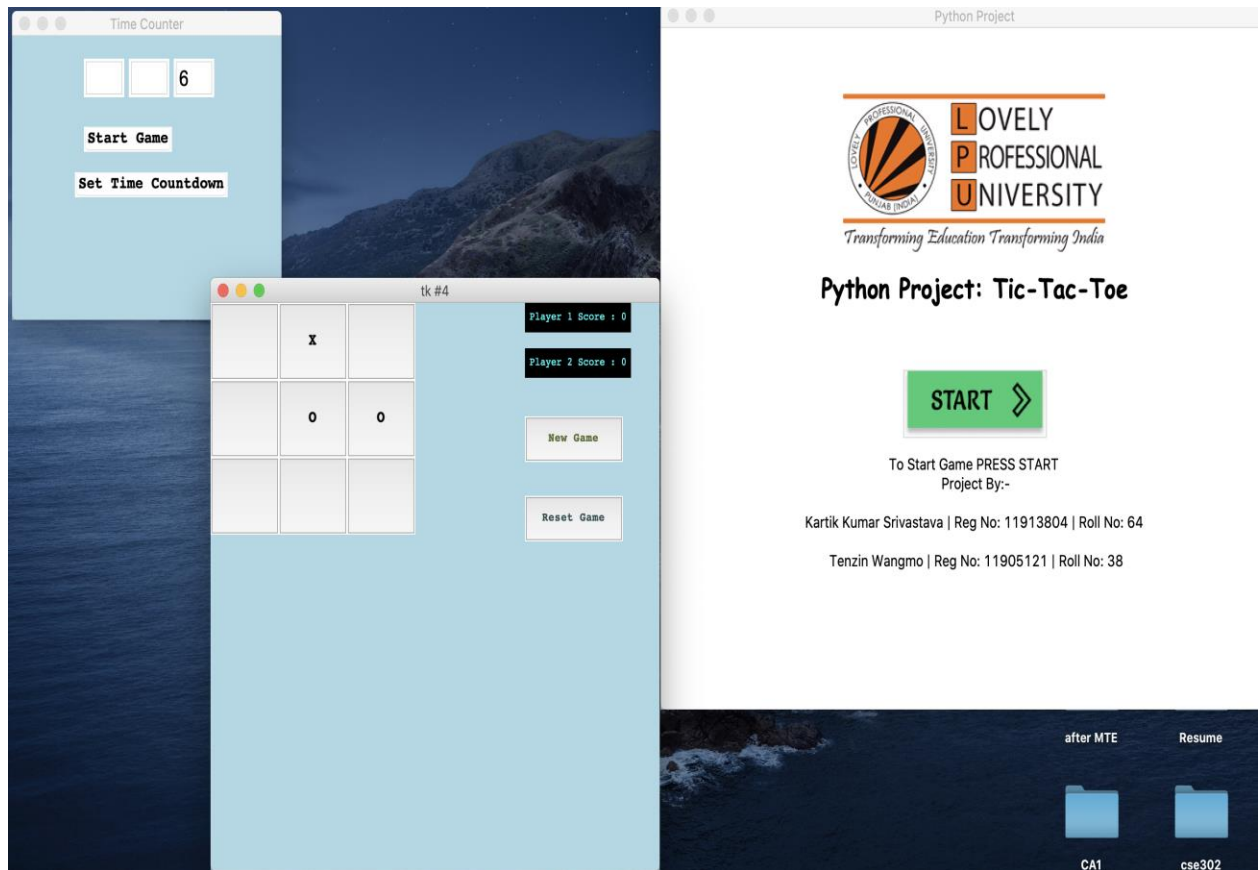
Followed by a NEW GAME button, it will lead to a new game where all the spaces are empty whereas RESET GAME button will reset the scores of the players to 0(nil) and starts the game all over again.

Adjacent to it we have a 3\*3 grid where player needs to click any squares of their choice simultaneously.

1st player will have “o” in his box while the 2<sup>nd</sup> player will have “X” in his box.

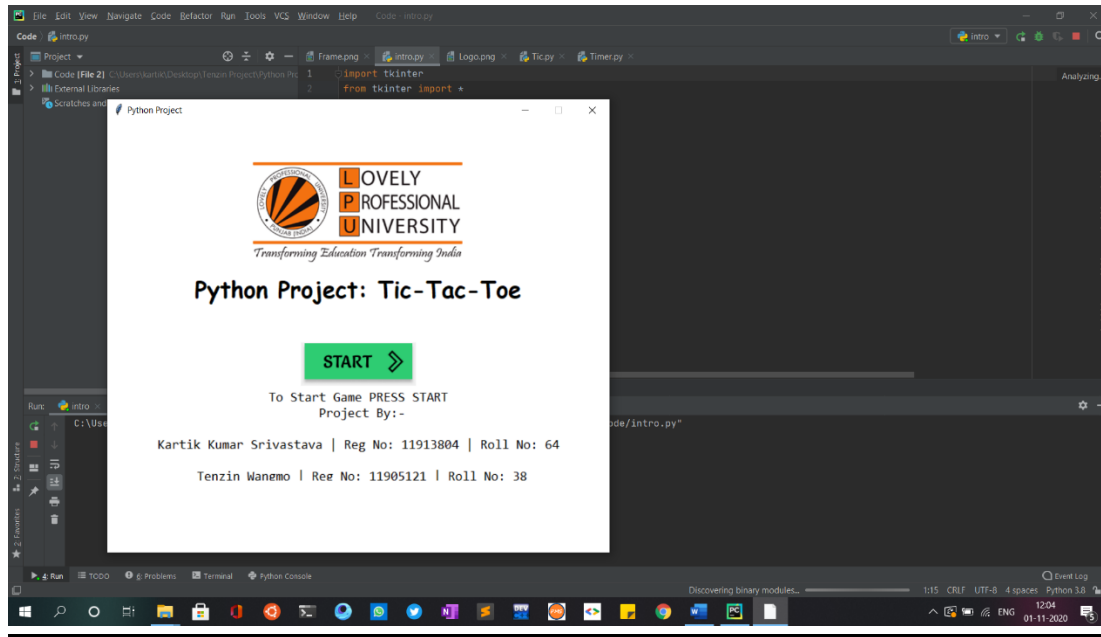


**Screenshot of 3<sup>rd</sup> module**



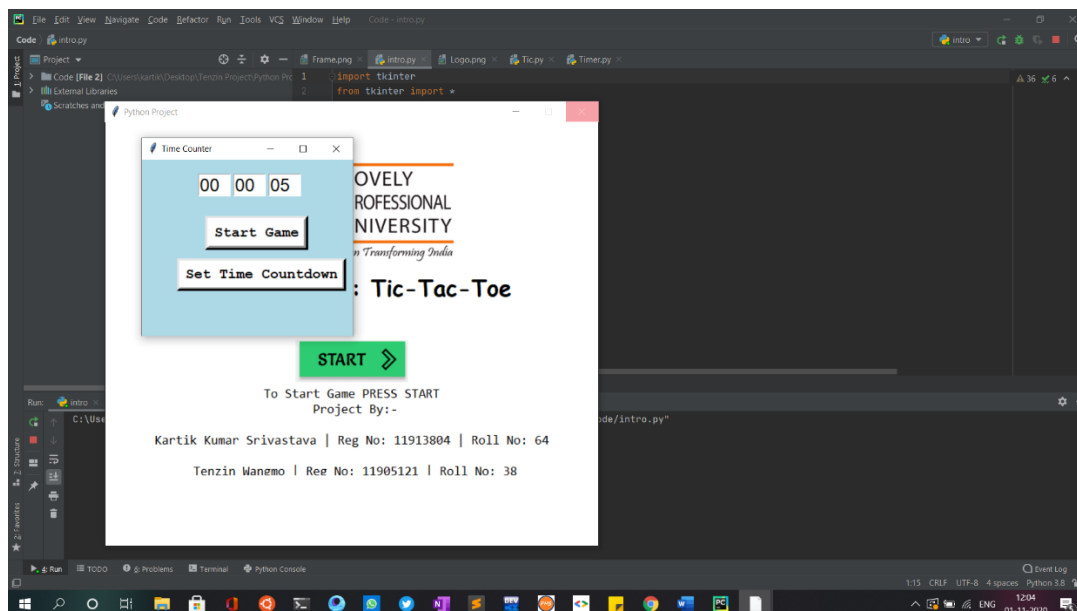
## Screenshot of all the 3 modules

# Input/Output Results



Input : Click on Start Button to Start Game

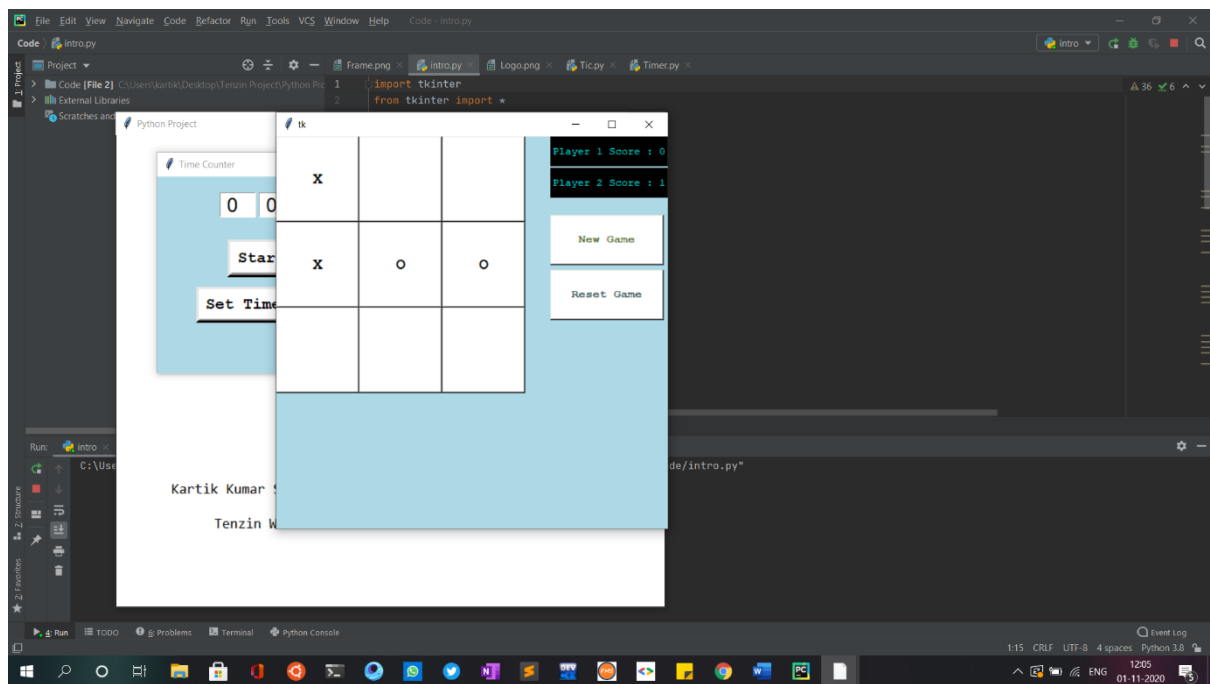
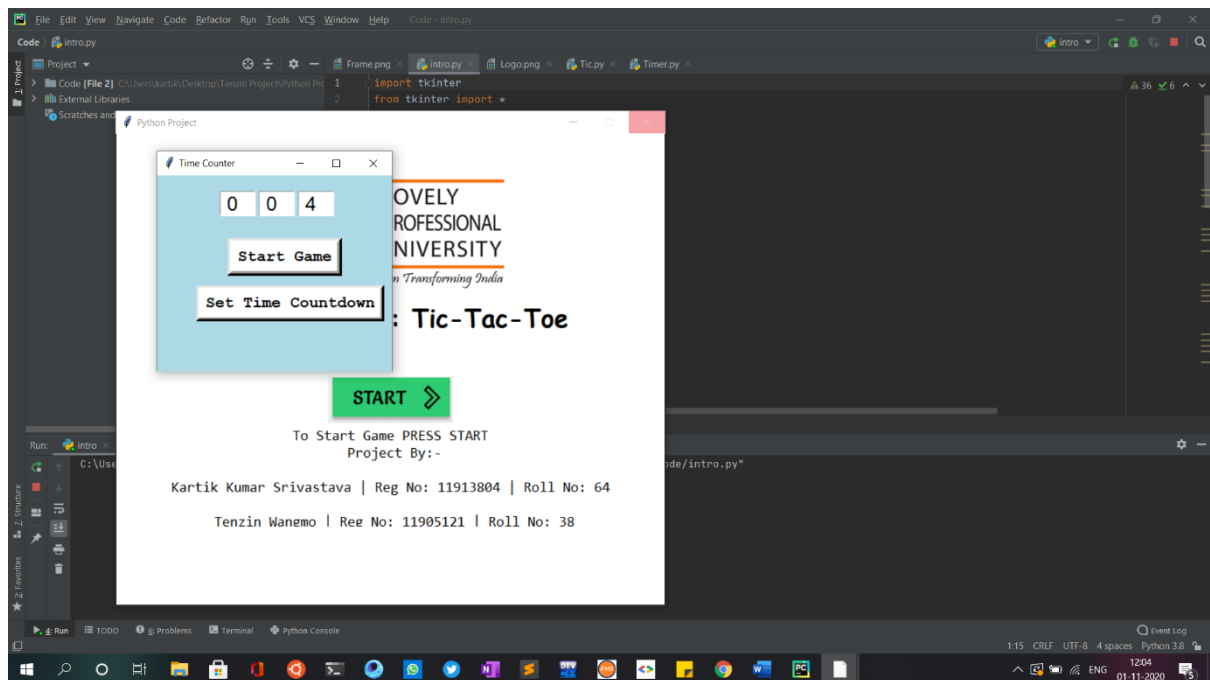
Output : Timer Module Opens



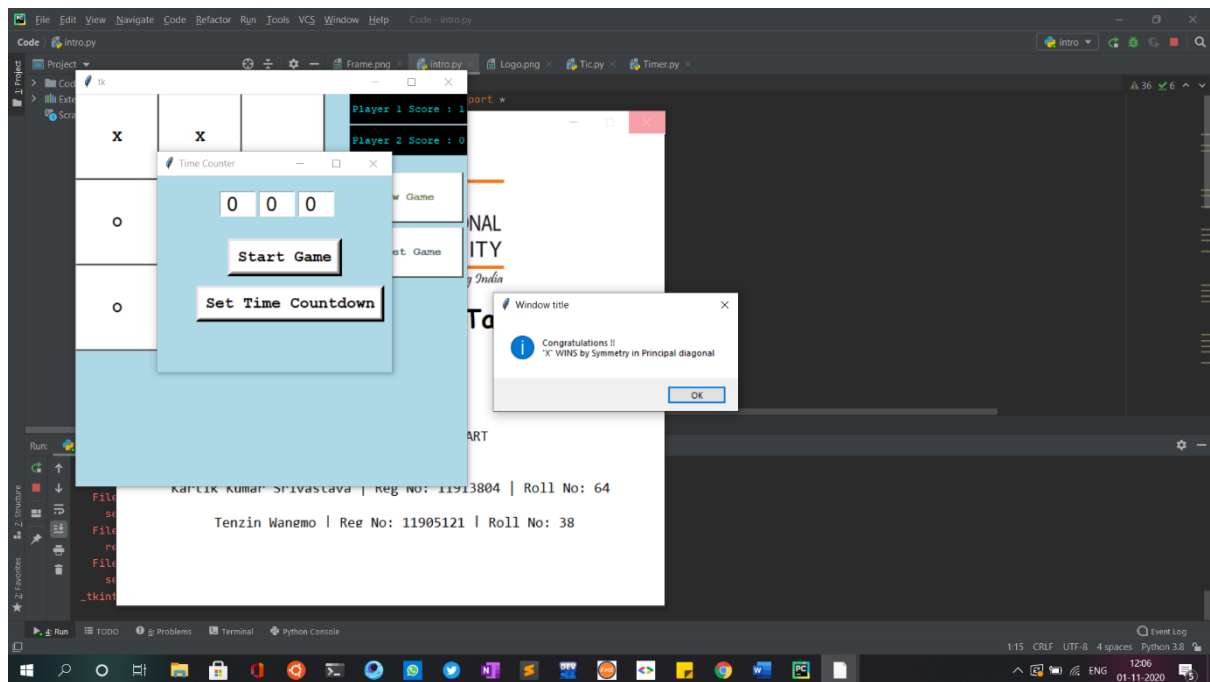
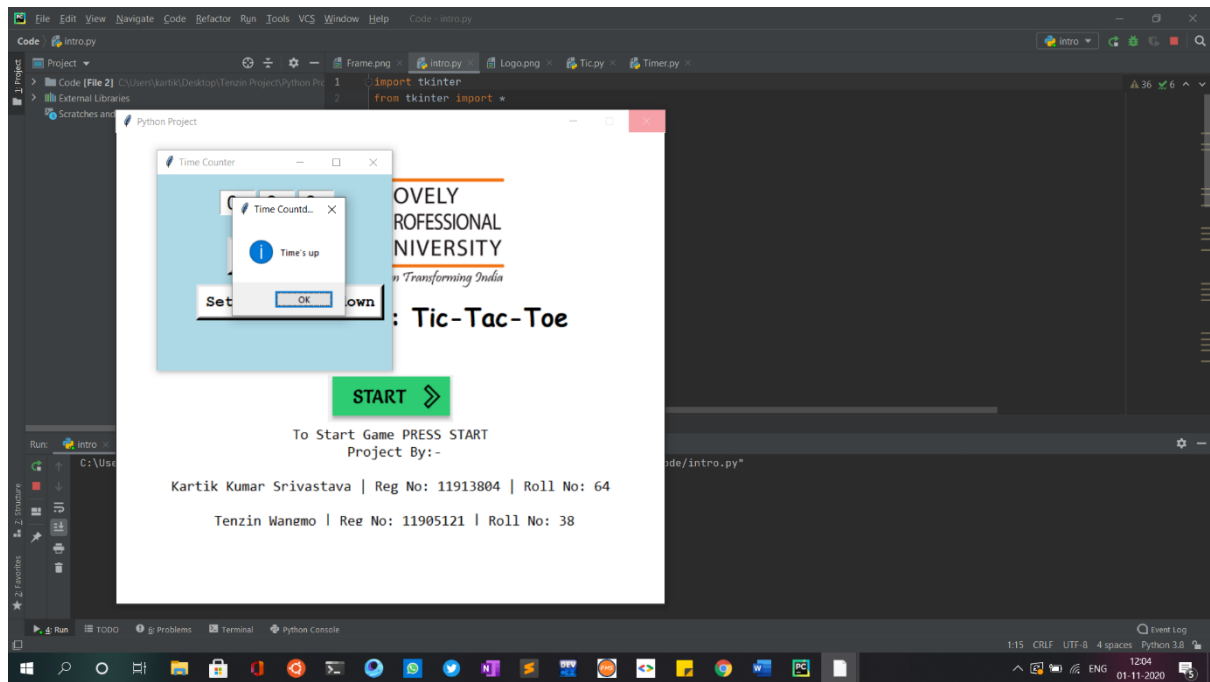
Input : Enter Time then Click “Set Time Counter” and Press “Start Game”

Output : Timer Countdown Starts and Game Window Opens

# Main Game







Input : Click on Buttons to Enter “X” and “O” in the Game

Output : When a player wins a message Dialog box pops up  
When time runs out “Times Up” Message is Displayed

## **Project Work Distribution**

### **Kartik :**

Tic-Tac-Toe Game Module

Timer Module

Synopsis Report

- Input/Output Results
- Project Work Distribution
- Flow Chart

Video Explanation

### **Tenzin :**

Intro Module

Synopsis Report

- Data Flow Diagram
- Entity Relation Diagram
- Screenshots

Video Explanation

## **LIMITATION:**

Only mouse interface is implemented, keyboard is not activated in the game.

## **BIBLIOGRAPHY:**

Some of the information has been taken from the following source:

- [geeksforgeeks.com](https://www.geeksforgeeks.com)
- [LucidChart.com](https://www.lucidchart.com)  
(Flowchart designing)
- [Codemy.com](https://www.codemy.com)