Python GUI game: Unscramble

GDG VIT: 2 CREDIT COURSE

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CONTENTS

SR. NO.	TITLE	PAGE
1.	Abstract	3
2.	Introduction	3
3.	Methodology	4
4.	Code	6
5.	Result	9
6.	Conclusion	11
7.	References	11

ABSTRACT

This document contains a python application. This application is a game in which there is a set of 30 TV shows out of which 10 are shown to the user in a scrambled manner. The goal of the user is to unscramble the name of these 10 TV shows. For each correct guess the player get 1 point. The ultimate goal is to maximize the score.

INTRODUCTION

A GUI game in which whenever game starts , the game gives 10 randomly selected TV show names and jumbled , the user has to predict the correct name of the TV show and accordingly how many he guesses correct he gets 1 point. The jumbled words are different every time and also jumbled in a different way. Using random library in python.

GUI using the python framework-Tkinter.

example –

For “Game of Thrones” –

meagofhrotensor

megaforontehs

METHODOLOGY:

Algorithm:

1.Importing tkinter library which will be used for the GUI and also import random library which will be used for jumbling the words.

```
from tkinter import *
from tkinter import messagebox
import random
```

2. Create an Array “showlist” which will contain the name of 30 TV shows.

3.Function which takes each word from the array and scrambles it and returns

```
getScrambled():
    show = random.choice(showlist).upper()
    scrambled_list = list(show.replace(" ", ""))
    random.shuffle(scrambled_list)
    scrambled = ''.join(scrambled_list)
    return show, scrambled
```

4.Create the GUI components which will be the Interface

```
welcome = Label(self, text="Welcome!", font="bold")
tryto = Label(self, text="Guess the TV show")
scrambled = Label(self, font="sans-serif 12 bold", fg="red")
yourguess = Label(self, text="What is your guess? ")
guess_ent = Entry(self, font="sans-serif 12")
submit = Button(self, text="Submit", command=self.guessing)

welcome.grid(row=0, column=0, sticky=N+E+W+S)
tryto.grid(row=1, column=0, sticky=N+E+W+S)
scrambled.grid(row=2, column=0, sticky=N+E+W+S)
yourguess.grid(row=4, column=0, sticky=W)
```

```
guess_ent.grid(row=5, column=0, sticky=N+E+W+S)
submit.grid(row=6, column=0, sticky=N+S, pady=5)
```

5. Main algorithm of the program.Here the code to play is run 10 times. The score is increased by 1 if correct.

```
 #loop to run the play 10 times
      if self.tries<11:
         if guess != show:#if answer is incorrect just display the score
            title, message = "Wrong, Score=", self.sum
            messagebox.showwarning(title, message)
            self.new_game()
            return
         self.sum += 1#if answer is correct increase score by 1 and display
         title, message = "Correct, Score=", self.sum
         messagebox.showwarning(title, message)
         self.new_game()
         return
      else:#if game is played 10 times display the score and quit(root.destroy())
         title, message = "Game Over!! Your Score:", self.sum
         messagebox.showwarning(title, message)
         self.new_game()
         root.destroy()
```

6.New game start function, which is called every time of a new play

```
new_game(self):
      self.the_show, self.scrambled = getScrambled()
      self.scrambled_label.configure(text=self.scrambled)
      self.reset_input()
      self.tries += 1
```

CODE:

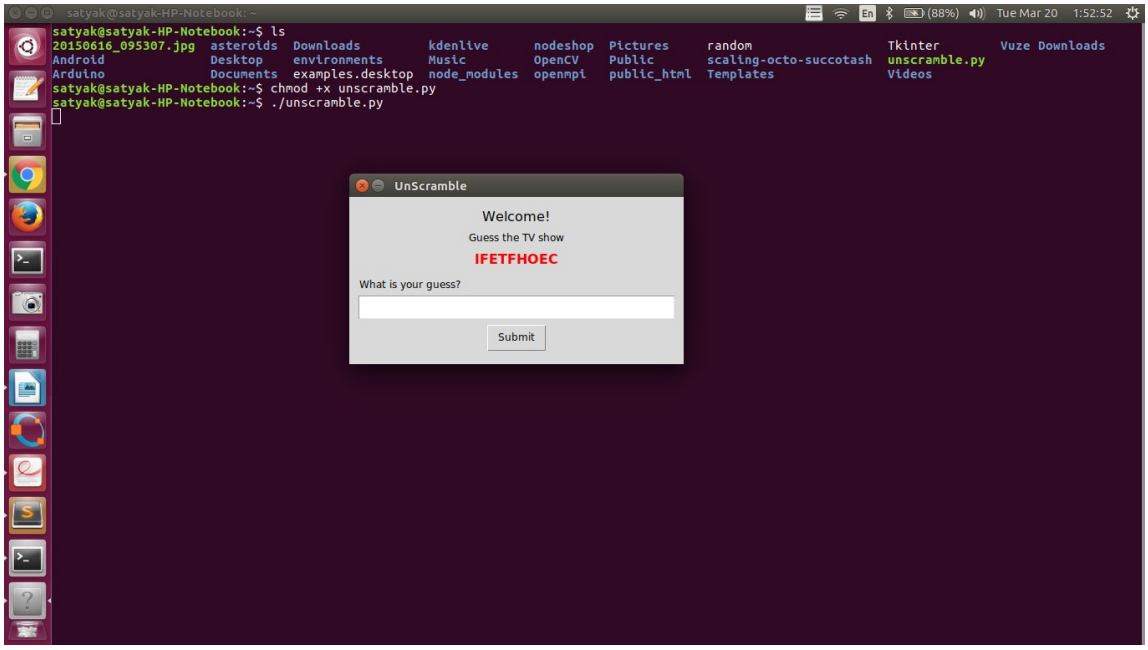
```
#!/usr/bin/env python3


#Python GUI application/game to unscramble 10 TV shows and maximize the score
#Creator:Satyak Babar



#import the python framework tkinter for GUI
from tkinter import *
from tkinter import messagebox
import random


showlist = ( "Jessica Jones", "The Walking Dead", "Grey's Anatomy", "This Is
Us","Arrow",
            "Game of Thrones ", "Homeland", "Sneaky Pete", "The Good Doctor",
"Lucifer",
            "Supernatural", "Shameless", "Black Mirror ", "Vikings","Love",
            "Altered Carbon", "Riverdale","The Blacklist","Gotham","The Flash ",
        "Criminal Minds","Stranger Things","Friends","Timeless","The Office",
        "Money Heist","Modern Family","Westworld","The Big Bang Theory","Suits")


#Function to return the scrambled TV Show Name
def getScrambled():
    show = random.choice(showlist).upper()
    scrambled_list = list(show.replace(" ", ""))
    random.shuffle(scrambled_list)
    scrambled = ''.join(scrambled_list)
    return show, scrambled


class Application(Frame):
    """A GUI Application"""

    def __init__(self, parent):
        super().__init__(parent)
        self.pack(fill=BOTH, expand=1, padx=10, pady=10)

        self.columnconfigure(0, weight=1)
        for i in range(7):
            self.rowconfigure(i, weight=1)
```

```
        self.guess_ent = None
        self.scrambled_label = None
        self.tries = 1
        self.sum = 0

        self.displayComponents()
        self.new_game()



    def displayComponents(self):
        welcome = Label(self, text="Welcome!", font="bold")
        tryto = Label(self, text="Guess the TV show")
        scrambled = Label(self, font="sans-serif 12 bold", fg="red")
        yourguess = Label(self, text="What is your guess? ")
        guess_ent = Entry(self, font="sans-serif 12")
        submit = Button(self, text="Submit", command=self.guessing)

        welcome.grid(row=0, column=0, sticky=N+E+W+S)
        tryto.grid(row=1, column=0, sticky=N+E+W+S)
        scrambled.grid(row=2, column=0, sticky=N+E+W+S)
        yourguess.grid(row=4, column=0, sticky=W)
        guess_ent.grid(row=5, column=0, sticky=N+E+W+S)
        submit.grid(row=6, column=0, sticky=N+S, pady=5)

        self.guess_ent = guess_ent
        self.scrambled_label = scrambled
        root.bind("<Return>", self.guessing)


    def reset_input(self):
        self.guess_ent.delete(0, END)


    def guessing(self, event=None):
        guess = self.guess_ent.get().upper()
        show = self.the_show
        if not guess:
            return
        #loop to run the play 10 times
        if self.tries<11:
            if guess != show:#if answer is incorrect just display the score
                title, message = "Wrong, Score=", self.sum
                messagebox.showwarning(title, message)
                self.new_game()
                return
            self.sum += 1#if answer is correct increase score by 1 and display
            title, message = "Correct, Score=", self.sum
```

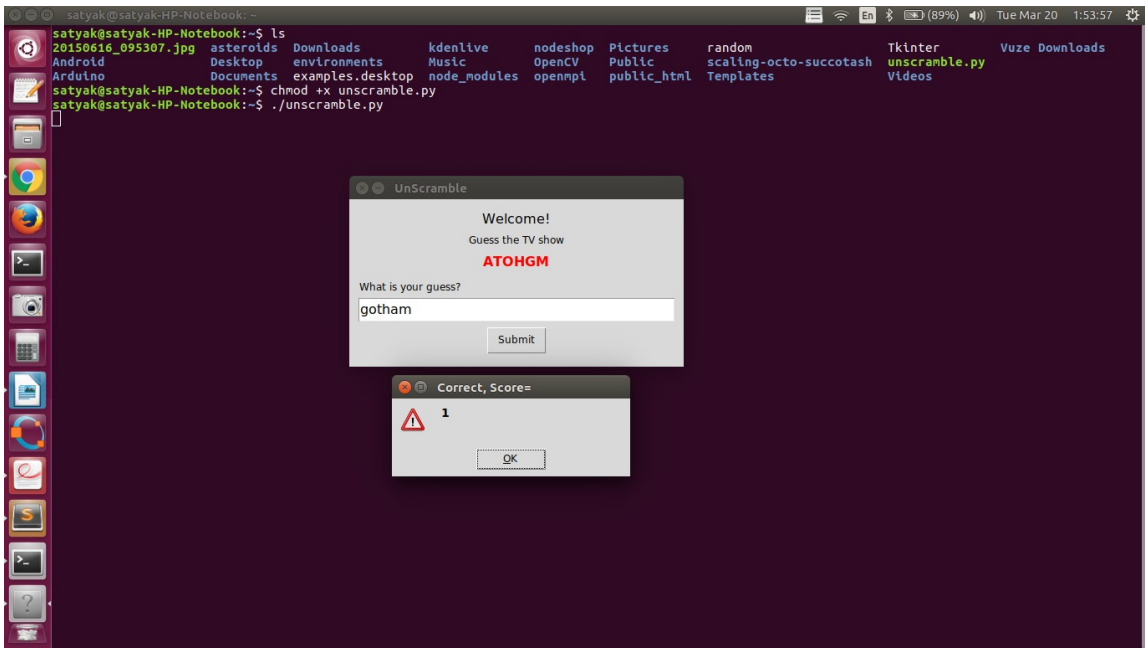
```
            messagebox.showwarning(title, message)
            self.new_game()
            return
        else:#if game is played 10 times display the score and quit(root.destroy())
            title, message = "Game Over!! Your Score:", self.sum
            messagebox.showwarning(title, message)
            self.new_game()
            root.destroy()


    def new_game(self):#new play starts here
        self.the_show, self.scrambled = getScrambled()
        self.scrambled_label.configure(text=self.scrambled)
        self.reset_input()
        self.tries += 1#keeps count of the number of plays/chances played




if __name__ == "__main__":
    root = Tk()
    root.geometry("400x200")
    root.resizable(width=False, height=False)
    root.title("UnScramble")
    app = Application(root)
    root.mainloop()
```

RESULT:

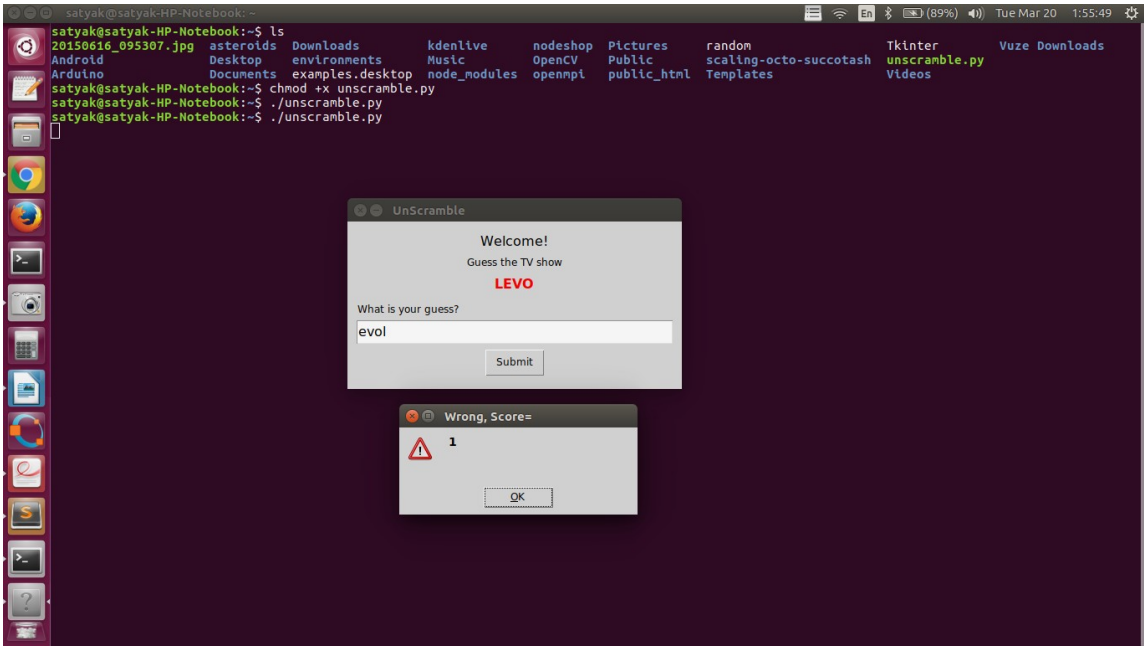
On startup:



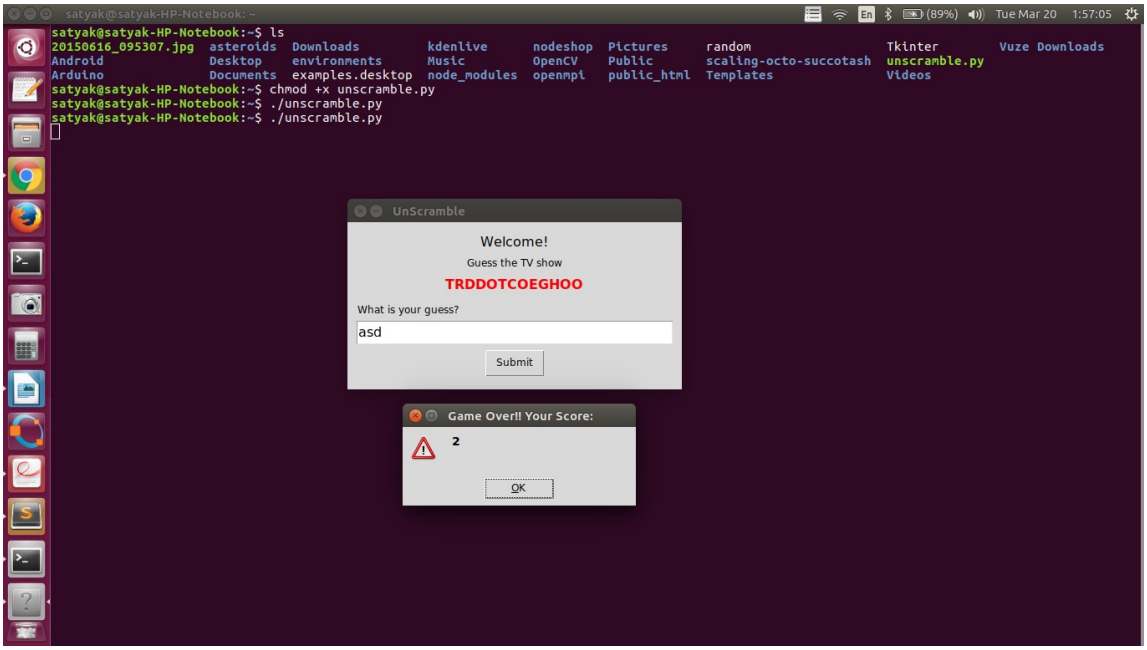
On Correct Answer:



On wrong Answer:



On Game End:



CONCLUSION:

This is the working of a simple game using python and tkinter framework GUI.The requirements for running this game are also not much, all that required is python and tkinter library. The interface is also not complex and can be played easily.

REFERENCES:

Websites:

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- **http://www.imdb.com/search/title?title_type=tv_series**
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