INTERMEDIATE PROGRAMMING ASSIGNMENT

Assignment 2: GUI with Tkinter   (W09&W10&W11)

Background

Imagine that you are working as a software developer in a very prestigious video games company (yes, again!). You have been assigned to a project for a client that wants a video game with a GUI.

Exercise

The video game has to work as follows:

- On pressing the start button, the code will present a small figure (rectangle/square/circle/oval, etc.), drawn in a canvas with a certain colour.
- The user must press this figure. The figure disappears after the user clicks on it.
- If the user presses within two seconds the figure, it receives 1 point.
- If the user receives 1 point, a label must update by one to reflect this change in the score.
- The figure will be redrawn at a new location on the canvas for the user to play again.
- The same steps will be repeated until the end of the game.

Do not worry about ending the game - the user knows how to quit using CTRL-C. In this assignment, it is important to apply the good practices for designing an interface that we have seen in class. The quality, design and clarity of the code will be valued. Take into account everything that you learned in this course (not only in the part of GUI).

For obtaining all the marks for this assignment, a new functionality must be created. For this new functionality that you implement, you have the freedom to be creative and go beyond the previous requirements specified. For example, an extra functionality could be when the user gets 10 points, something new occurs and a there is a new way of solving the game, or for example, something new appears in the screen. There is total freedom for this extra functionality, the only requirement is that you have to briefly explain it in the comment box in the submission link in Canvas. Consider that originality and complexity of this extra functionality will be evaluated. If you decide not to implement the extra functionality, just write in the comment box: "No extra functionality implemented". Remember that plagiarism of this extra functionality will be penalized (see submission details). Due to the freedom in implementing this extra functionality, there should not be coincidences with the extra functionalities of your classmates.

Submission Details:

Include all your code in a **single** python module named: *YourSurname_YourName.py* (for example, in my case: Climent_Laura.py). Do not submit a zip. Then, upload your single file in Canvas in the link Assignment2_submission. In this submission link, you will find the deadline for the submission.

Important: If you do not follow the above-mentioned instructions, you will get a reduction of 15 marks in your assignment. Also, note that it is not possible to submit after the deadline (submission after the deadline means that you will get 0 marks). Furthermore, consider that a software plagiarism detection tool will be applied to your assignment. Check the plagiarism slides for consequences of plagiarism (first lecture of the module).

Evaluation Details:

No extra functionality implemented: [up to 15 marks]
Opt 1.- Software works perfectly and the design is correct and user friendly. **[up to 15 marks]**
Opt 2.- Software works almost perfectly and/or the design is correct and user friendly but there might be a small error design. **[up to 10 marks]**
Opt 3. - Software works well but the design is not correct (for example, size of the GUI too small, figures are too big, colours that cannot be seen, text/button does not appear, etc.). **[up to 5 marks]**
Opt 4.- Something in the software does not work well. For example, figure, label and button appear but the increase of points is not shown and/or the figure is not redrawn properly/the timer does not work. **[up to 3 marks]**
Opt 5.- Figure, label or button do not appear or they appear but when you press on some of them, it does nothing. **[0 marks]**

Extra functionality implemented: [up to +15 marks]
Opt 1.- The extra functionality is creative, innovative, functional and uses complex elements from GUI **[up to +15 marks]**
Opt 2.- The extra functionality is creative and uses elements from GUI **[up to +10 marks]**
Opt 3.- The extra functionality is not significative and/or you do not include its description **[0 marks]**