Introduction to Programming 2017-2018

Exercise 9

In this exercise you are required to create a MATLAB GUI application called '**guiSlot**' that implements a basic version of a casino-style slot machine (the "slot machine" draws 3 random numbers and the player loses or wins money according to the combination of numbers that were drawn (as detailed below)).

GUI design:

Write a Matlab GUI called '**guiSlot**'. You can design your GUI layout as you want, but it has to include the following:

- Display/s of the 3 numbers drawn at each round.
- Control for the player to run each round (draw new numbers).
- Control that displays the total amount of money the player has.
- Control that enables the player to declare a "new game" and reset the total money sum.
- Control that can display relevant messages to the player.
- Control that enables the player to insert a minimum amount of money. If the player reaches this amount, the machine won't draw new numbers until he will start a new game.
  The minimum amount of money inserted should be logical (i.e., money>=0), otherwise, a message should be displayed and the game won't start.
  If the user doesn't fill in this detail, a message should be displayed and the default limit will be 0.

You can implement these operations in whatever way seems reasonable to you, and add additional controls as necessary.

Rules of the game:

- Each new game should start with the player having an initial sum of 100$.
- At each round the "slot machine" should randomly draw (and display) 3 round numbers between 1-7.

- After the numbers are drawn, the amount of money should be updated according to the following pay-table:
  - "Lose round" - If three different numbers were drawn the player should lose 5$.
  - "Lucky seven round" - If three different numbers were drawn, but one of them is the number 7 (e.g. [4 2 7]) the user should not lose or win any money.
  - "Bonus round" – If any two numbers out of the three have the same value (e.g., [1 3 1], [7 7 2]) the user should win +10$.
  - "Win round" – if all three numbers are the same and their value is between 1-6 (e.g., [2 2 2]) the player should win +50$.
  - "Jackpot round" – if all three numbers drawn were the number 7 ([7 7 7]), the player should win +100$.
- If the player loses all his/her money ,or approaches his limit, the game should be over, so no more cards can be drawn, until the player chooses to start a new game.
- Note: The player can decide to start a new game at any stage (including in the middle of a current game).

Notes:

- It is recommended to design the GUI before you start the layout and programming.
- You can choose which events will lead to a message being displayed to the player (for example, after each round, once the game is over, at beginning of a game, etc.), but at least one event should lead to message display.
  Remember to make sure that if a message was presented it will also be removed once it is no longer relevant.
- Use clear and easily visible font colors and sizes.
- Give meaningful tags to all objects.
- Test your program carefully and under all different condition.

Submission:

The following files should be submitted:

– M-file containing your code.

– '.fig' file containing the GUI figure.

Submission date:

Soft copy should be submitted by **Monday (29.1.18) / Wednesday (31.1.18) midnight**.

Enjoy! Good Luck!