

Homework 3 (B0B17MTB, BE0B17MTB)

Problem Set 3E

April 24, 2024

1 Assignment

Implement an application with main file `problem3.m` with a graphical user interface (GUI) and implement the following functionality.

Problem 3-A Create a figure containing the following graphic components: a listbox, two buttons, and a lamp. Place them so that the GUI will approximately correspond to the following figure.

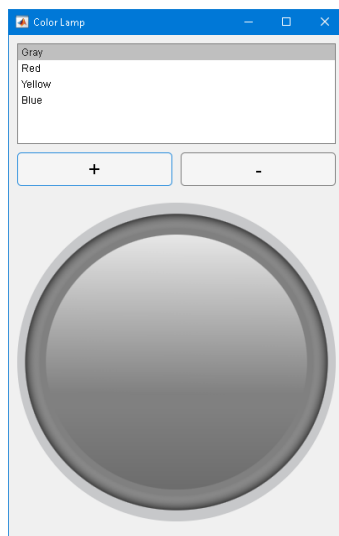


Figure A: Main application figure.

(1 point)

Problem 3-B By selecting a color in the list the lamp changes color according to the selected one.

(1 point)

Problem 3-C By rotating a mouse wheel change selected color in the list and change lamp's color accordingly.

(1 point)

Problem 3-D Pressing “-” button or the delete key deletes the selected color from the list, do not allow to delete the last one.

(1 point)

Problem 3-E Pressing “+” button opens a modal figure with an edit field, three knobs and “OK” button as in the following figure.

(1 point)

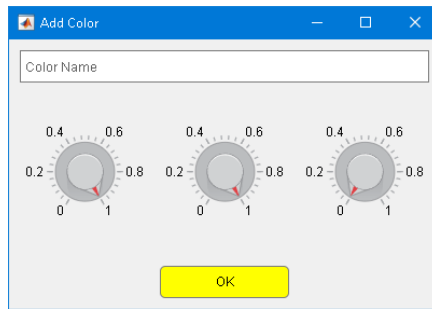


Figure F: Modal figure with the RGB knobs.

Problem 3-F Changing values of knobs (RGB components in range from 0 to 1) continuously shows the actual color as background color of “OK” button.

(2 points)

Problem 3-G By pressing “OK” button add the defined color into the list of colors and close the modal figure.

(2 points)

Problem 3-H Check the entered name of the colors to not be empty or duplicitous, show `uiaalert` when the name is invalid.

(1 point)

2 Instructions

The deadline for this homework is

- May-13, 7:59 (Monday’s group, B0B17MTB),
- May-8, 7:59 (Wednesday’s group, BE0B17MTB).

Created m-file(s) upload to the **BRUTE** system.

All the problems are to be solved by students individually (notice the BRUTE system has a duplicity checker). Do not use functions from the MATLAB Toolboxes.

Contact us at matlab@fel.cvut.cz with any questions or comments. The team of teachers wishes you good luck in solving the problems.