

# Homework (B0B17MTB)

## Problem Set 3C

### 1 Assignment

Create painting with two sliders as a simple application with a graphical user interface (GUI). To do so, implement a main function or script called `problem3.m` which creates GUI according to the following requirements:

- A figure contains the following graphic components: a checkbox, two sliders, an axes, and a button. Place them so that the GUI will approximately correspond to the Figure 1.  
(2 points)
- Appropriate callback functions are implemented so that:
  - moving the sliders always moves with a red cursor regardless the checkbox state,  
(2 points)
  - pressing keyboard arrow keys also move with a relevant slider,  
(2 points)
  - line is drawn during the movement of the slider if the checkbox is enabled, limit the drawn lines within limits of the sliders and axes even when using arrow keys,  
(2 points)
  - checking/unchecking of the checkbox “Enable Painting” enables/disables painting of a line,  
(1 point)
  - button “Reset” clears all so-far painted lines and set the cursor to the center of the axes.  
(1 point)
- Try to run the file `problem3c.p` to check the complete functionality of the application on your platform.
- Prevent using `global` variables.
- Your application does not necessarily look exactly like our solution (colors, markers, fonts, sizes,...), but the functionality should be the same.

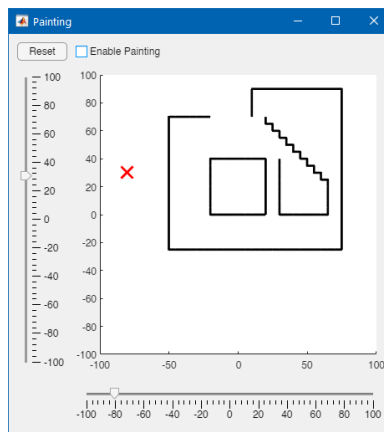


Figure 1: Resulting GUI of the Painting application.

### 2 Instructions

Complete all the assignments till May 15, 7:59 a.m. Created m-file upload to the [BRUTE](#) system. The problem shall be solved by the students individually (notice the BRUTE system has a duplicity checker). Do not use MATLAB App Designer and functions from MATLAB Toolboxes. Contact [matlab@fel.cvut.cz](mailto:matlab@fel.cvut.cz) with any questions.