

CS1112 Spring 2015 Project 3 Part A due Thursday 3/5 at 11pm

(Part B will appear in a separate document. Both parts have the same submission deadline.)

You must work either on your own or with one partner. If you work with a partner you must first register as a group in CMS and then submit your work as a group. *Adhere to the Code of Academic Integrity.* For a group, “you” below refers to “your group.” You may discuss background issues and general strategies with others, but the work that you submit must be your own. In particular, you may discuss general ideas with others but you may not work out the detailed solutions with others. It is not OK for you to see or hear another student’s code and it is certainly not OK to copy code from another person or from published/Internet sources. If you feel that you cannot complete the assignment on your own, seek help from the course staff.

Objectives

Completing this project will solidify your understanding of user-defined functions and vectors. Part A focuses on user-defined functions and graphics; Part B additionally involves vectors.

1 Cornell Tennis Center

Complete Problem **P5.3.7** in *Insight* (page 126). Be sure to read *Insight* §5.3 first—it’ll help you with this problem! You will submit two m-files in CMS: a function file `DrawTennisCourt.m` and a script file `CornellTennis.m`.

Function `DrawTennisCourt` draws *one* tennis court as specified in the problem statement in the book. Relative to the example in §5.3, `DrawTennisCourt` has a similar role as the function `DrawFlag`. Your script `CornellTennis` has the role of setting up the figure window and drawing the “tennis center” (by calling your function `DrawTennisCourt`), which is the role played by the script `Eg5_3` in §5.3. In your script use the figure window setup commands that are used in `Eg5_3` (the first four commands). Additionally, use the command `hold off` at the end of the script.

Download the function `DrawRect` from the course website—*Insight*→*Code and Data* (see section 5.3). While you can specify the color for filling the rectangle, `DrawRect` outlines the rectangle in black, which doesn’t look right for our tennis court drawing. You will modify `DrawRect` so that it does not outline the colored rectangle. This can be done simply by modifying the last statement in `DrawRect`, which calls the built-in function `fill`, to be

```
fill(x,y,c,'line','none')
```

Change the function name in the function header to be `DrawRectNoBorder` and save the modified function in a file `DrawRectNoBorder.m`. Call `DrawRectNoBorder` instead of `DrawRect` in drawing the tennis court. You do not need to submit the file `DrawRectNoBorder.m`; we will use our version of the file when we evaluate your code.

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