CENG 15 - NANO 15 - Publishing your work for upload

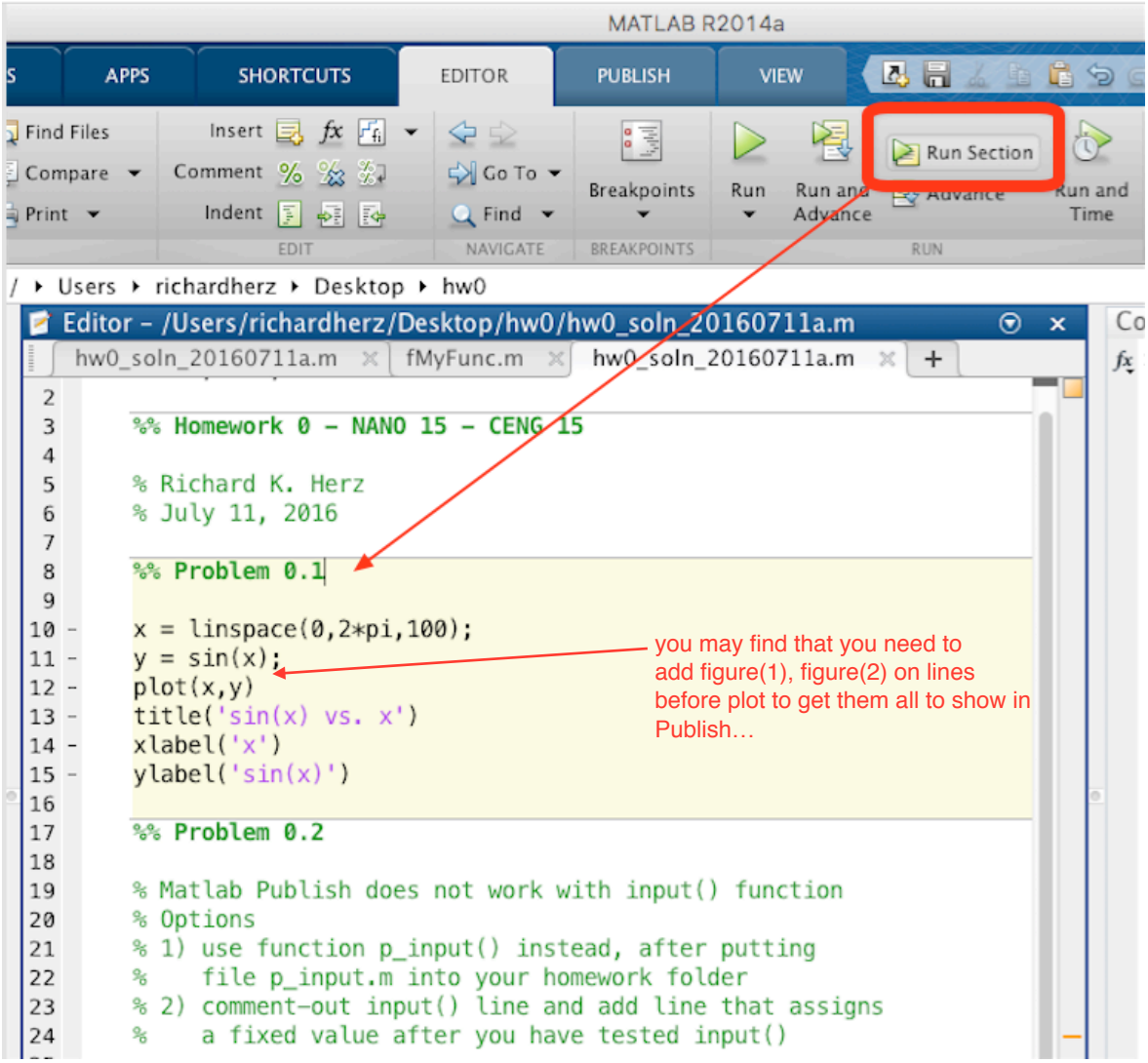
You will turn in your work for each assignment by uploading a single PDF file to the assignment in your account at Canvas.ucsd.edu. The following screenshots show how to create the PDF file.

The screenshot below shows a test homework program (or script) in the Matlab editor.

Put all work for each homework assignment into one main m-file. Put each problem into that main m-file into its own "code cell." Any user-defined functions will be in separate m-files.

A "code cell" starts with double percent signs, %%, followed by a blank space. Also place a blank line after the %% line. The first code cell should contain the homework number and course number in the cell title and the date and your name as comments. Comments start with single % signs.

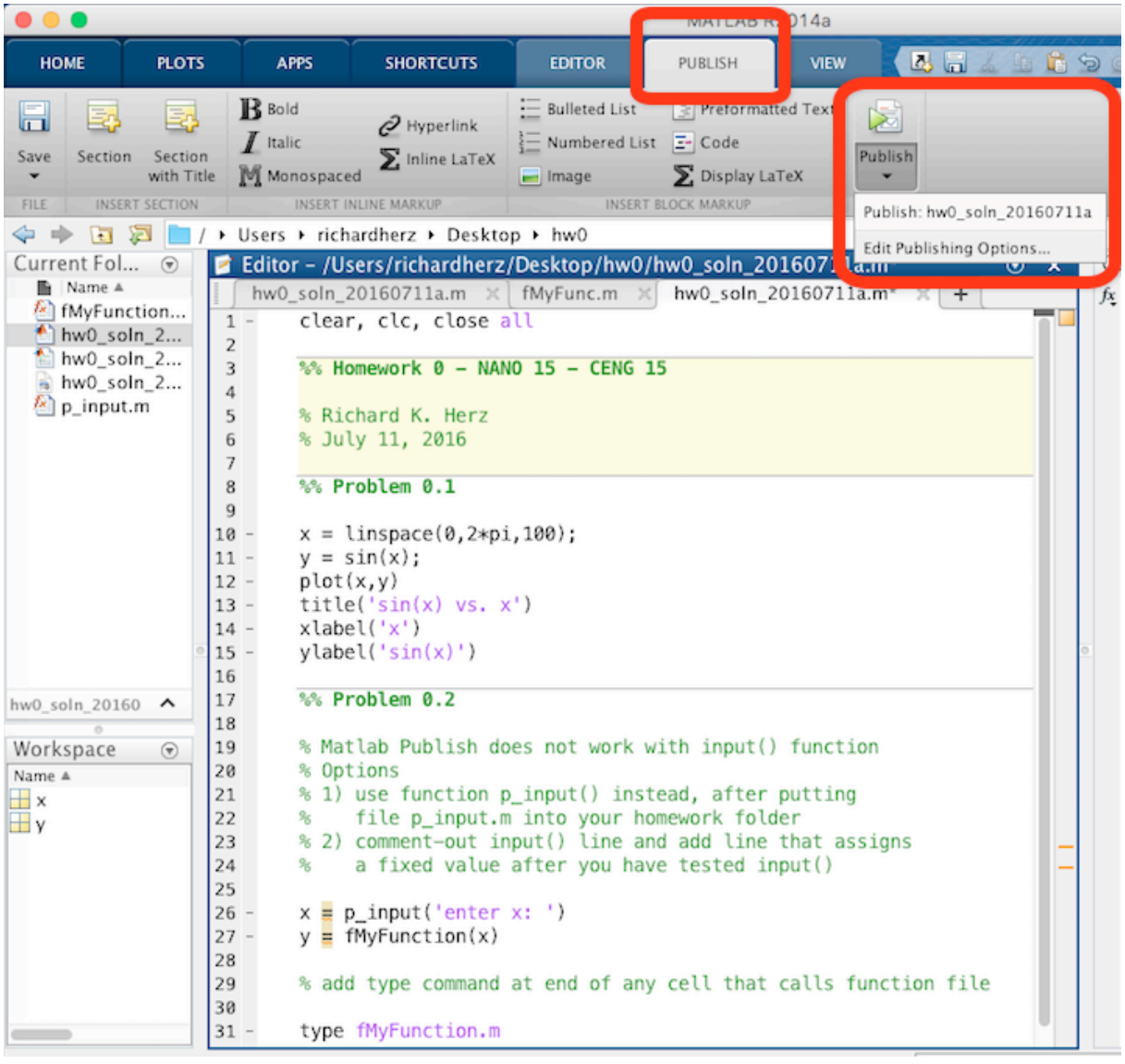
Any one code cell can be run separately from the other cells in an m-file. See the "Run Section" button in the screenshot. This allows you to work on problems separately. You may need to add a clear command to the start of a cell to make sure values from previous cells are not used accidentally.



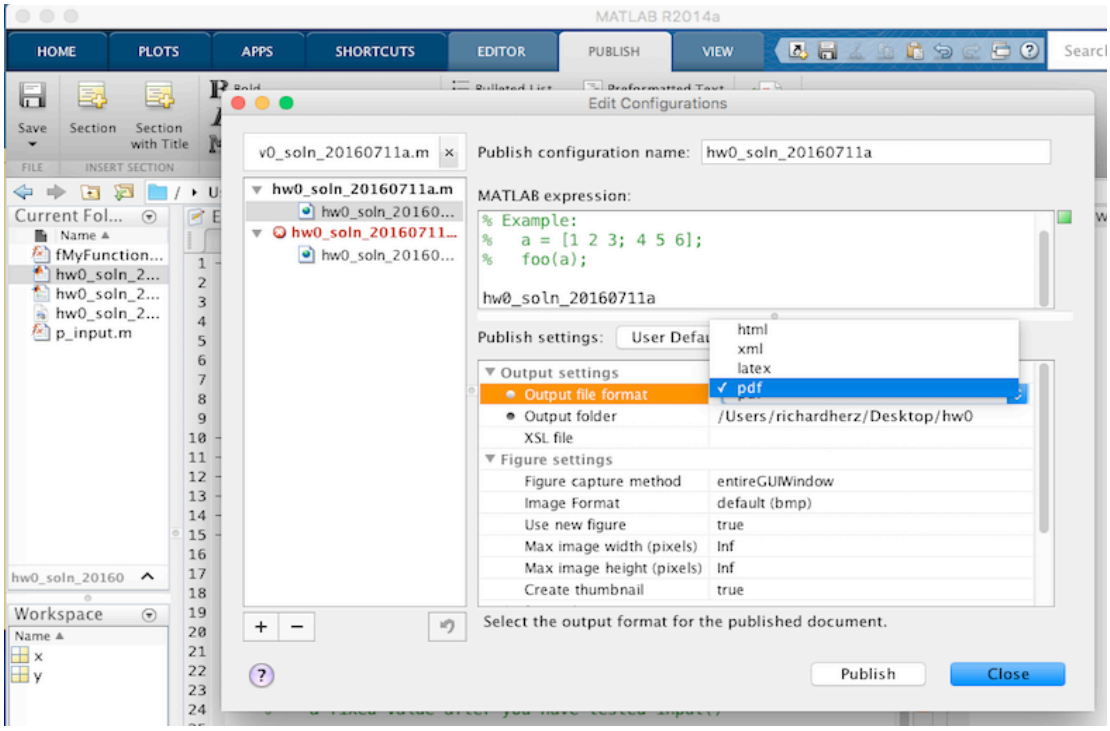
For cells that call a user-defined function, at the end of the cell, add the command "type" and the name of the m-file in which the function is defined. This way, a listing of the function file will appear at the end of the output in the PDF file. This type command is shown at the bottom of the figure below.

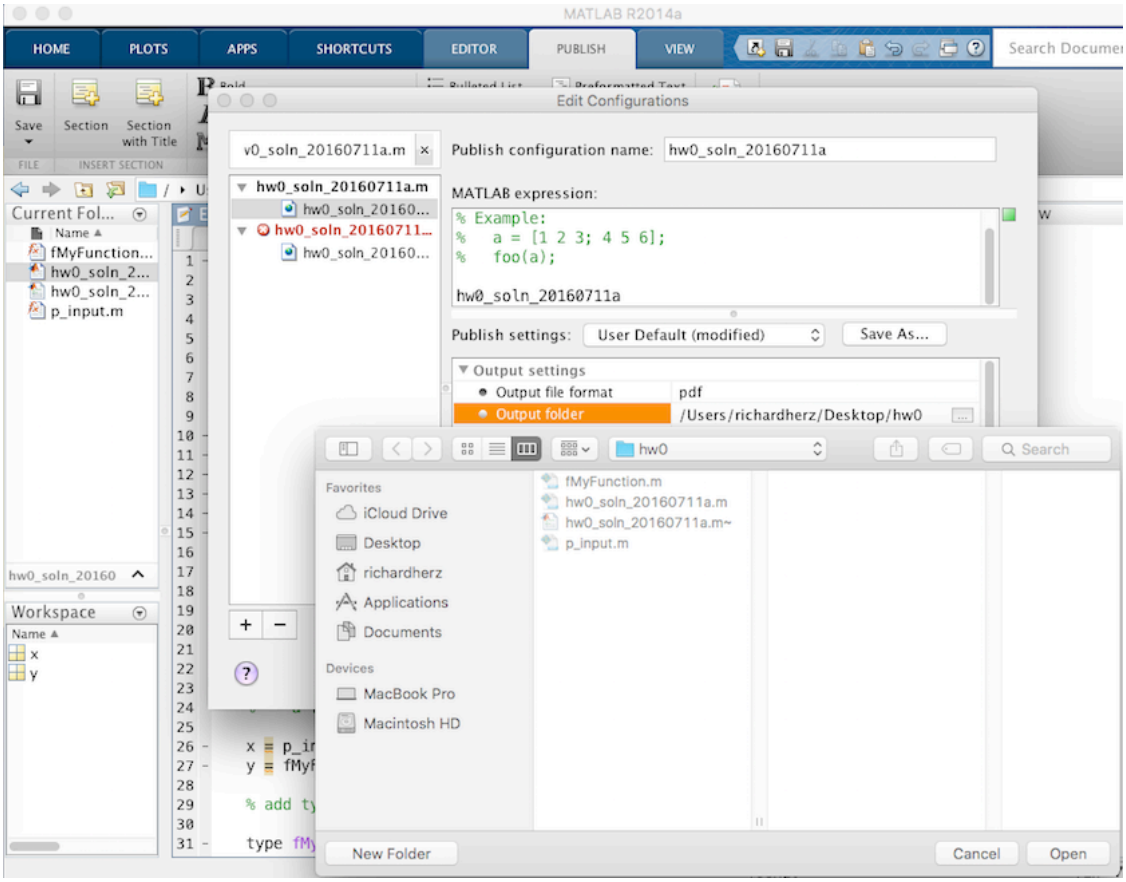
At this point, we have written, run, and debugged our program, and it is ready to turn in. We are going to do this by using the "publish" feature of Matlab. All errors must be removed. Publish will not work with the `input` function - see instructions below for how to handle those.

When you are ready to turn in your work, click the Publish tab. Then click the Publish menu buttons down arrow and select Edit Publishing Options. You need to change these options because the default will produce a web page.



The following screenshots show you how to select the PDF output option and where the PDF file will be saved.


MATLAB R2014a
HOME
PLOTS
APPS
SHORTCUTS
EDITOR
PUBLISH
VIEW
Edit Configurations
v0_soln_20160711a.m
Publish configuration name: hw0_soln_20160711a
hw0_soln_20160711a.m
MATLAB expression:
% Example:
% a = [1 2 3; 4 5 6];
% foo(a);
hw0_soln_20160711a
Publish settings:
html
xml
latex
pdf
Output settings
Output file format
Output folder
/Users/richardherz/Desktop/hw0
XSL file
Figure settings
Figure capture method
entireGUIWindow
Image Format
default (bmp)
Use new figure
true
Max image width (pixels)
Inf
Max image height (pixels)
Inf
Create thumbnail
true
Select the output format for the published document.
Publish
Close
Current Fol...
fMyFunction...
hw0_soln_2...
p_input.m
Workspace
x
y


MATLAB R2014a
HOME
PLOTS
APPS
SHORTCUTS
EDITOR
PUBLISH
VIEW
Edit Configurations
v0_soln_20160711a.m
Publish configuration name: hw0_soln_20160711a
hw0_soln_20160711a.m
MATLAB expression:
% Example:
% a = [1 2 3; 4 5 6];
% foo(a);
hw0_soln_20160711a
Publish settings: User Default (modified)
Save As...
Output settings
Output file format
pdf
Output folder
/Users/richardherz/Desktop/hw0
hw0
Search
Favorites
iCloud Drive
Desktop
richardherz
Applications
Documents
Devices
MacBook Pro
Macintosh HD
fMyFunction.m
hw0_soln_20160711a.m
hw0_soln_20160711a.m~
p_input.m
New Folder
Cancel
Open

Matlab's Publish feature will not work with the input function, e.g., will not work with `a = input('enter a: ')`. There are two options to work around this, as shown below.

```
17      %% Problem 0.2
18
19      % Matlab Publish does not work with input() function
20      % Options
21      % 1) use function p_input() instead, after putting
22      %    file p_input.m into your homework folder
23      % 2) comment-out input() line and add line that assigns
24      %    a fixed value after you have tested input()
25
26 -    x = p_input('enter x: ')
27 -    y = fMyFunction(x)
28
29      % add type command at end of any cell that calls function file
30
31 -    type fMyFunction.m
```

Here is the web link for option 1

http://www.mathworks.com/matlabcentral/fileexchange/37200-p-input-mimic-functionality-of--input--while-publishing/content/p_input.m

Copy the code to a file "p_input.m" and put that file into the same folder as your homework file.

Also see the 's' string input option for the input function, which also applies to p_input

http://www.mathworks.com/help/matlab/ref/input.html

Below are screenshots of the PDF file produced.

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Homework 0 - NANO 15 - CENG 15
Problem 0.1
Problem 0.2

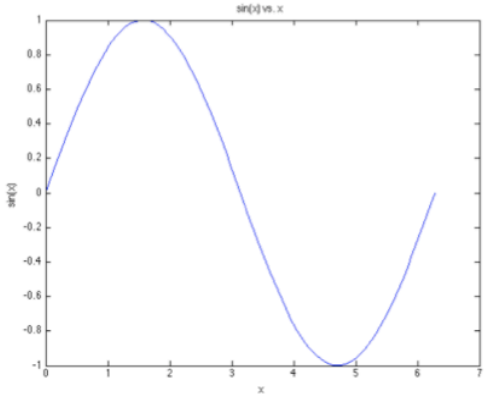

```
clear, clc, close all
```

Homework 0 - NANO 15 - CENG 15

```
% Richard K. Herz
% July 11, 2016
```

Problem 0.1

```
x = linspace(0,2*pi,100);
y = sin(x);
plot(x,y)
title('sin(x) vs. x')
xlabel('x')
ylabel('sin(x)')
```



Problem 0.2

```
% Matlab Publish does not work with input() function
% Options
% 1) use function p_input() instead, after putting
%    file p_input.m into your homework folder
% 2) comment-out input() line and add line that assigns
%    a fixed value after you have tested input()

x = p_input('enter x: ')
y = fMyFunction(x)

% add type command at end of any cell that calls function file

type fMyFunction.m
```

```
enter x: 5

x =

     5


y =

    25


function z = fMyFunc(w)
% simple example user-defined function
z = w.^2;
```

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BACKUP YOUR WORK!!!

It is YOUR responsibility to "backup" your work so that you don't lose it.

We will not accept the excuse that you lost your work.

This means to make multiple copies of each file and store the files in separate physical locations. Don't be like the Berkeley history professor who kept backup disks of the book he was writing in his home office near his computer. The Oakland hills fire of 1991 burned up both the computer and the backup disks, so all was lost! Storing copies in separate physical locations is easy now because of the extensive networking we have but it still deserves some thought and planning.

Experiment. Save a copy of a test file to your Active Directory (AD) desktop at school. Save another copy to your Documents folder. Logoff. Then logon again. See which of the files are still there. The AD server is one physical location. You need to have at least one more to store files.

One technique is to email copies of your files to yourself, then leave them on the mail server.

For long assignments, save a copy after each significant amount of work that you add, and then backup those copies.

Figure out a practice that works for you, then do it consistently.