Name: Pranav Kalyani
eID: pk7683
Date: 2/5/2017
Section: 17490 (Monday – 630-8)
Assignment: Lab 1

Problem 1.1 For each of the names above, write down why they aren't valid in MATLAB

2more = 4 ; - Invalid because It doesn't start with a letter .
i-p-freely = 0 ; - - Invalid because It contains an invalid character (-)
lucky# = 13 ; - - Invalid because It contains an invald character (#)

Problem 1.2 Assign $5.98x10^{24}$ to the name earth_mass (in kg).
Copy/paste what you typed at the prompt and MATLAB's response.

```
>> earth_mass = 5.98e+24

earth_mass =

  5.9800e+24
```

Problem 1.3 Assign a value with a real component of 3×10^{-8} and an imaginary component of -5×10^{3} to a variable named x. Copy/paste what you typed at the prompt and MATLAB's response. Is it as accurate as you thought it would be? What command would you issue to make the output more accurate?

```
>> x = 3e-8 + (-5e+3)*i

x =

  3.0000e-08 - 5.0000e+03i
```

Yes it was accurate, to make it more accurate I would use the format functionality.

Problem 1.4 MATLAB uses double precision for this and all variables. Use the format command suitably and copy/paste the value of π to 15 decimal places. Type help format to learn more about the format command. You can use the help option to learn more about any MATLAB command.

```
>> format long, pi

ans =
```

3.141592653589793

Problem 1.5 Type in the lines above and then assign $y^x + w*w + v$ to t. Copy/paste your results.

```
>> t = y^x + w*w + v

t =

    4.993600000000000e+02
```

Problem 1.6 Using the previous variable definitions, which two commands below result in the same value? (Try to answer before typing it into MATLAB!)

```
y-(57^1.1)/10+a
y-57^1.1/10+a
```

Problem 1.7 Using all that you have read till now, write the set of commands that gets two numbers from the user and displays the sum of the numbers in the following manner:
"You entered x and y which sum to z"
Where instead of x, y and z you will display the actual user input and result. Copy/paste the commands and corresponding outputs.

```
>> num1 = input(' Enter number one ');
 Enter number one 25
>> num2 = input(' Enter number two ');
 Enter number two 55
>> num3 = num1 + num2;
>> stir = ['You entered ', num2str(num1), ' and ' , num2str(num2) , ' which sum to ',
num2str(num3)];
>> disp(stir)
You entered 25 and 55 which sum to 80
```

Problem 1.8 Repeat the previous problem (number addition) but this time, store the user input in a mat file with a safe name and read it back to perform the addition and store the output (sum) in a different mat file. Copy/paste all the commands and corresponding output(s).

```
>> Num1 = input(' Enter number one ');
 Enter number one 30
```

```
>> Num2 = input(' Enter number two ');
 Enter number two 85
>> save('hw1.mat', 'Num1');
>>  save('hw2.mat', 'Num2');
>> load('hw1.mat', 'Num1');
>> load('hw2.mat', 'Num2');
>> Num3 = Num1 + Num2;
>> save('hw3','Num3');
```
