UCSC

SCS2211 - LABORATORY II
Octave Lab Practical Sheet - 05

Instructions

- **Do the tasks given in the practical sheet and take screenshots of the outputs**
- **Create a report using the screenshots and include your name with initials and index number in the report.**
- **Report must be in PDF format.**
- **Report name should be <Index number>.pdf (Eg: 2000000.pdf)**
- **Any form of plagiarism or collusion is not allowed**
- **upload the document to the submission link.**

1. Run the following on Octave: -
    a. num2cell('hello')
    b. num2cell(hello)
    c. num2cell("hello")
    d. num2cell("()*&^%$")
    e. num2cell("()*&^%$")
    f. num2cell("()*&^%$")
    g. num2cell("()*112$")

2. Run the 2 following programs a and b on Octave and compare their results.

```
X = linspace(-90, 180, 280)
Y = sind(x)
plot(x,y)
```

Program a

```
X = linspace(-90, 180, 280)
Y = sin(x)
plot(x,y)
```

Program b

3. Save **both** of the **above** programs ‘a’ and ‘b’ as jpg, jpeg, bmp, gif and png files. Name/Rename them with **both** your full name **and** index number.

4. Run the following (program ‘c’) and get the output as a Portable Network Graphic file. Name/Rename that file with your full name **and** index number **both**.

```
clear
n = 1000;
x = linspace(-10,10,n);
y = cos(x); s = sign(y);
plot(x, s.*y);
```

Program c

5. Evaluate the following using Octave.
    a. 8 < 3 & 2 > 9
    b. 7 > 5 & 120 < 98.666
    c. 9 == 9 & 100 > 49
    d. 5 == 6 & 3 > 1 & 7 > 0
    e. ‘y’ != ‘z’ & 4 < 3 & 5 > 2
    f. “%” != “%” & 7 == 2 & 7840 > 7940
    g. ‘y’ ==”y” & “x” ==’x’

6. Evaluate the following using Octave.
    a. 23 < 5 | 3 == 7
    b. 8 < 7 | 3 > 0
    c. 4 > 2 | 0 == -1 | 7 < 100
    d. 5 != 5 | 8 != 2 | 567 > 124
    e. “abc” == ‘abc’ | e == pi

f. ‘xyz’ != “xyz” | e != pi
g. “|” != ‘|’ | “&@” == ‘&@’ | 10000000 != 10000000

7. Using the Octave CLI, do the following in your current working directory;
   a. Make a subdirectory called ‘UoC’.
   b. Change your location to the above subdirectory.
   c. In this new subdirectory, make 2 subdirectories; one by the name of ‘UCSC’ and another by the name of ‘IBMBB’.
   d. Now move to the subdirectory ‘IBMBB’.
   e. Run the command `plot3([12,4,66; 34,21,75; 90,24,53]).`
   f. Save the above plot as a “Joint Photographic Experts Group” file.
   g. Rename the file above with **your full name and index number**.

8. Using the Octave CLI, do the following in your current working directory;
   a. Define a variable with your initials as its name, (do not use dots in variable names).
   b. Assign your first name as data to the variable. (eg. myfName)
   c. Save a new file in the format - **<<yourFullName_IndexNo.txt>>**.
   d. Load the file you created - **<<yourFullName_IndexNo.txt>>**.
   e. Now close that file.

9. Save the following code in a file called **<<yourFullName_IndexNo.m>>** and run it. Then print output as a file called **<<yourFullName_IndexNo.gif>>**.

```
a = b = linspace (-8, 8, 41);
[ xx , yy ] = meshgrid (a , b) ;
c = sqrt (xx.^ 2 + yy.^2) + eps
;
d = sin(c)./c ;
mesh(a , b , d);
```

10. Find out the error messages you get when you print after clearing the plot and when you print after closing the plot.