SCS 2211 Lab Sheet 04

OCTAVE Lab Practical Sheet 04

1. Find values of the following angles using sin() – 45, 30, 60, 90, 0, 75, 15.

2. Do the same for the above angles using sind().

3. Do the same for the above angles using tan().

4. Do the same for the above angles using tand().

5. Do the same for the above angles using cos().

6. Do the same for the above angles using cosd().

7. Do the same for the above angles using sinh().

8. Do the same for the above angles using cosh().

9. Do the same for the above angles using tanh().

10. Find the results of the following operations: -
    - tand(90) + secd(90)
    - tand(90) - secd(90)
    - tand(90) * secd(90)
    - tand(90) / secd(90)
    - cotd(90) + secd(90)
    - secd(90) * cotd(90)
    - secd(90) / cotd(90)
    - cotd(90) - secd(90)
    - exp(0) + cos(0)
    - sin(90) + cos(0) + log(e)

11. Type the following program in the Octave IDE, save it as graph.m and run it.

```
N = 1000;
X = 2 + 0.5*randn(N, 1)
hist(X)
```

12. Generate a histogram having a normal distribution with 79 values where the face color is green and the edge color is red.

13. Generate a histogram having a Poisson distribution with 280 values where the face color is blue and the edge color is yellow.

14. Generate a histogram having a gamma distribution with 360 values where the face color is cyan and the edge color is magenta.

15. Generate a 10 x 7 matrix of integers within the range of 1 to 80.

16. Generate a 10 x 10 matrix of integers within the range of 1 to 490.

17. Generate a 5 x 5 matrix of integers within the range of 1 to 200.

18. What is the output of exp(1)?

19. What is the result of expm([2, 4; 5, 1])?

20. What is the result of logm([2,1;3,1])?

21. Evaluate log(exp(e)).

22. Type the following code in an Octave file and run it.

```
x = 0:0.01:14;

plot(x, besselj(0,x),
x,-besselj(1,x))

legend('BesselJ0', 'derivative')
```

23. Evaluate the following: -
    a. hex2dec('23fa')
    b. hex2dec('bc77')
    c. hex2dec('3ff21')
    d. num2cell('345')
    e. num2cell(345)
    f. num2cell("523")
    g. num2cell(523)