

MPSTME NMIMS- B.Tech. CSBS Year IV sem VII

IT Workshop/MATLAB:-Lab Assignment 01

NOTE:

- Explore MATLAB Desktop environment before starting these experiments.
- All the variables provided are case sensitive.

1.	<p>Launch MATLAB, create list of following variables in command window:</p> <p>a) $m=10$, $n=25$, $p=43$ b) $A=m^2$, $B=n^3$, $C=(A+B)*p$ c) $t=0.1$, $f=0.5$, $a=5$, $x=a*\sin(2\pi ft)$ d) $y=mx+C$ e) $k=(t^2+1)(t^2-1)$</p>										
2.	<p>(a) From Question1 make a new variable 'v', overwriting part (c), i.e.,</p> $x=a*\sin(2\pi ft)$ <p>by adding $\cosh(t)$</p> <p>(b) Create variable 'r', store value to it to find the area of circle :</p> $A=\pi r^2$ <p>where 'r' is the radius of circle. Further, using the built in function namelengthmax , find the maximum number of character in "A". [Hint: store value of 'r' as 10]</p>										
3.	<p>Explore the solve command using MATLAB help and find the solution for the problem given :</p> $X + 1 = 2, \text{ find } x.$										
4.	<p>Complete the table using help command:</p> <table><thead><tr><th>Command name</th><th>Purpose</th></tr></thead><tbody><tr><td>whos</td><td></td></tr><tr><td>clear</td><td></td></tr><tr><td>pwd</td><td></td></tr><tr><td>diary</td><td></td></tr></tbody></table>	Command name	Purpose	whos		clear		pwd		diary	
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5.	<p>Given $\theta = 145$ degrees. A vector can be represented by its rectangular coordinates x and y or by its polar coordinates r and θ. θ is measured in radians. The relationship between them is given by the equations:</p> $x = r * \cos(\theta)$ $y = r * \sin(\theta)$ <p>Assign values for the polar coordinates to variables r and θ. Then, using these values, assign the corresponding rectangular coordinates to variables x and y.</p>
6.	<p>The combined resistance R_r of three resistors R_1, R_2, and R_3 in parallel is given by</p> $R_r = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3}}$ <p>Create variables for the three resistors and store values in each, and then calculate the combined resistance. (Hint: consider $R_1=50\Omega$, $R_2=25\Omega$ and $R_3=60\Omega$)</p>