1) Start MATLAB.
Type \( x = -1:0.2:1 \) to create an x-axis vector. Then execute the following statements and examine:
\[
\sqrt{x} \\
\sin(x) \\
x.^2
\]

2) Examine what happens when you execute the following statements:
\[
x = [1 2 3 4] \\
y = -2:2:4 \\
x.^y \\
x.*y \\
x./y \\
x.^y \\
x.^*y \\
x.*y'
\]
What is the difference between “.*” and “*” operation?

3) Type the following lines into MATLAB command window. Then use the command “size” to see the dimension of each matrix.
\[
B = [2; 4; 6; 8] \\
C = [5 3 5; 6 2 -3] \\
E = [3 5 10; 0 0 ... 
\quad 3; 3 9 8] \\
T = [4 24 9] \\
Q = [T 0 T] \\
V = [C(2,1); B] \\
A(2,1) = -3
\]

4) Make a matrix by typing \( M = \text{randn}(5) \) and examine
\[
M(:,3) \\
M(1:2,4) \\
M(3,:) \\
M(3,4) \\
M(4,3:4) \\
\text{diag}(M) \\
\text{sum}(M)
\]