Array Addressing

Sub-vector

To access a value in a vector, use parentheses to enclose the index value. For example, \( x(2) \) is the value in the 2nd cell of vector \( x \). To access a sub-vector, specify the index values using a colon notation. Type the following statements in MATLAB to see what vectors get created:

\[
x = \text{rand}(1, 6) \\
y = x(2: \text{length}(x)) \text{ } \% \text{ a length 5 vector containing the last 5 values in } x
\]

Sub-matrix

Type these statements in MATLAB to see what matrices get created:

\[
m1 = \text{rand}(4, 3) \text{ } \% \text{ 4-by-3 random matrix (uniform dist.)}
m2 = m1(3, 2) \text{ } \% \text{ a scalar: cell in 3rd row, 2nd column of } m1
\]
\[
tmp = m1(3:4, :) \text{ } \% \text{ a 2-by-3 matrix: rows 3 to 4, all columns, of } m1
\]
\[
tmp = m1(:, 2) \text{ } \% \text{ a 4-by-1 matrix (length 4 column vector): column 2 of } m1
\]
\[
tmp = m1([1 4], :) \\
tmp = m1(:, [1 3]) \\
tmp = m1([1 4],[1 3])
\]