CS 1173: MATLAB max function

The max function returns the maximum value of the elements along an array dimension.

Example 1: Different ways to apply max to array A

```
A = [1, 2, 6; 4, -7, 0];
B = max(A, [], 1);
C = max(A, [], 2);
```

```
B = max(A, [], 1) =

[4 2 6]
```

```
C = max(A, [], 2) =

[6]
```
CS 1173: MATLAB max function (1 argument)

When you call max with only one argument, max finds the maximum element(s) along the first non-singleton dimension. For a single row or column, the result is just one number.

\[ B = \text{max}(A) \]

maximum elements array to find the maximum elements of

Example 1: A has both rows and columns

\[
A = \begin{bmatrix} 1, 2, 6; 4, -7, 0 \end{bmatrix}; \\
B = \text{max}(A); \\
C = \text{max}(A(:)); \\
The first non-singleton dimension is 1
\]

\[
B = \text{max}(A) = \begin{bmatrix} 4 & 2 & 6 \end{bmatrix} \quad C = \text{max}(A(:)) = 6
\]

Example 2: A has just one row

\[
A = \begin{bmatrix} 1, 2, 6 \end{bmatrix}; \\
B = \text{max}(A); \\
The first non-singleton dimension is 2
\]

\[
B = \text{max}(A) = 6
\]

Example 3: A has just one column

\[
A = \begin{bmatrix} 1; 4 \end{bmatrix}; \\
B = \text{max}(A); \\
The first non-singleton dimension is 1
\]

\[
B = \text{max}(A) = 4
\]