MATLAB Vectors and Matrices:

* A vector is a special case of a matrix in which one of the dimensions is 1
* Vectors can be row vectors or column vectors
* Values in vectors are stored in elements; elements are indexed
* Concatenation: joining vectors together
* Extending vectors in MATLAB is possible, but not a good idea
* Row vectors can be transposed to create column vectors
* Matrices must always have the same number of values in every row
* Matrix elements can be referenced using subscripted indexing (referring to the row and column indices) or by linear indexing; subscripted indexing is preferred
* Code should always get the dimensions of vectors and matrices rather than assuming them
* Empty vectors can be used to extend vectors (not a good idea) or to delete elements
* Entire arrays (vectors or matrices) can be passed to functions
* Array operations are performed element-by-element on corresponding elements of arrays (vectors or matrices) with the same dimensions
* Using a relational operator with a vector or matrix creates a **logical** vector or matrix (the relational expression is applied to every element)
* Using a **logical** vector as an index into a vector or matrix returns only those values for which the corresponding element in the vector or matrix was **true**

Functions that create vectors:

* **linspace**: creates a linearly spaced vector
* **logspace**: creates a logarithmically spaced vector

Functions that create matrices:

* **rand**: creates a matrix of random reals
* **randi([range],n,m)**:creates an nxm matrix of random integers in the range
* **zeros**: creates a matrix of all zeros
* **ones**: creates a matrix of all ones

Dimensions:

* **length**: returns the number of elements in a vector or the larger dimension for a matrix
* **size**: returns the number of rows and columns
* **numel**: returns the total number of elements in a vector or matrix
* **height**: returns the number of rows
* **width**: returns the number of columns

Logical:

* **false**: creates a matrix of false (logical 0) values
* **true**: creates a matrix of true (logical 1) values
* **any**: returns true if anything in the input argument is true
* **all**: returns true only if everything in the input argument is true
* **find**: finds elements for which an expression is true and returns the indices of those elements
* **isequal**: compares two arrays

Assessment Question

(T/**F**) Array indices in MATLAB begin at 0

(**T**/F) A row vector can be transposed to get a column vector