2.3

2. What do the following sets of statements do? What is the output from them?
   (a) \[
   \text{radius} = \text{input}('\text{Enter circle radius:}\n');
   \text{area} = \pi \times \text{radius}^2;
   \text{str} = ['\text{The area is ' num2str(area)];
   \text{disp}\left(\text{str}\right);
   \]
   (b) \[
   \text{value} = \text{int2str} (\pi);
   \text{disp}(['\text{The value is ' value '}']);
   \]

3. What do the following sets of statements do? What is the output from them?
   \[
   \text{value} = 123.4567e2;
   \text{fprintf}('\text{value = %e}\n', \text{value});
   \text{fprintf}('\text{value = %f}\n', \text{value});
   \text{fprintf}('\text{value = %g}\n', \text{value});
   \text{fprintf}('\text{value = %12.4f}\n', \text{value});
   \]

2.4

1. Assume that a, b, c, and d are defined as follows, and calculate the results of the following operations if they are legal. If an operation is, explain why it is illegal.
   \[
   \begin{align*}
   a &= \begin{bmatrix} 2 & 1 \\ -1 & 2 \end{bmatrix} & b &= \begin{bmatrix} 0 & -1 \\ 3 & 1 \end{bmatrix} & c &= \begin{bmatrix} 1 \\ 2 \end{bmatrix} & d &= -3;
   \end{align*}
   \]
   (a) results = a .* c;
   (b) results = a * [c  c];
   (c) results = a .* [c  c];
   (d) results = a + b .* c;
   (e) results = a + b .^ c;

2. Solve for \(x\) in the equation \(A \times x = B\), where \(A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 3 & 2 \\ -1 & 0 & 1 \end{bmatrix}\) and \(B = \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix}\).