2.3

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

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

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.
\[
a = \begin{bmatrix} 2 & 1 \\ -1 & 2 \end{bmatrix} \quad b = \begin{bmatrix} 0 & -1 \\ 3 & 1 \end{bmatrix} \quad c = \begin{bmatrix} 1 \\ 2 \end{bmatrix} \quad d = -3;
\]
(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 \[
A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 3 & 2 \\ -1 & 0 & 1 \end{bmatrix} \quad \text{and} \quad B = \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix}.
\]