Chapter 2

1. Write a program to convert Fahrenheit temperature to Celsius temperature for one input value. Output both the Fahrenheit and the Celsius values. The conversion formula is:

\[
c = \frac{5(f - 32)}{9}
\]

3. Write a program to evaluate the polynomial

\[f(x) = x^3 + 5x^2 + 10x + 15\]

7. Write a program that calculates the two solutions of the equation \(ax^2 + bx + c = 0\), given \(a\), \(b\), and \(c\). The solutions are given by

\[x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}\]

Chapter 1

3. Write an algorithm to compute the distance \(s\) fallen by an object in free fall. The formula is:

\[s = s_0 + v_0 t + \frac{1}{2} a t^2\]

where \(s_0\) is the initial position in feet, \(v_0\) is the initial downward velocity in ft/sec, \(t\) is the time in seconds, and \(a\) is 32.2 ft/sec^2. The input values are \(s_0\) and \(v_0\). The output values are \(s\) and \(t\) where \(t = 0, 5, 10, 15, 20, \ldots, 100\).