EE 271 - ch4_probs

Oct. 2, 2019

Name _____

1. P_4.2

   The roots of the quadratic equation $ax^2 + bx + c = 0$ are given by

   $$x = \frac{-b \pm \sqrt{(b^2 - 4ac)}}{2a}$$

   (a) Develop a pseudocode description of a program to compute both roots given the values of a, b, and c. Be sure to identify the real and imaginary parts.

   (b) Write the program described in part (a) and test it for the following cases:

   i. $a = 2, \quad b = 10, \quad c = 12$
   ii. $a = 3, \quad b = 24, \quad c = 48$
   iii. $a = 4, \quad b = 24, \quad c = 100$

2. P_4.5 Find the results of the following operations by hand and use MATLAB tocheck your results.

   (a) $z = 6 > 3 + 8$
   (b) $z = 6 + 3 > 8$
   (c) $z = 4 > (2 + 9)$
   (d) $z = (4 < 7) + 3$
   (e) $z = 4 < 7 + 3$
   (f) $z = (4 < 7) * 5$
   (g) $z = 4 < (7 * 5)$
   (h) $z = 2/5 \geq 5$

3. P_4.6 Suppose that $x = [10, -2, 6, 5, -3]$ and y = [9, -3, 2, 5, -1]. Find the results of the following operations by hand and use MATLAB to check your results.

   (a) $z = (x < 6)$
   (b) $z = (x \leq y)$
   (c) $z = (x == y)$
   (d) $z = (x \sim= y)$