

EE 461 TEST 2

1-The following is an addition problem in traditional base ten notation. Each letter represents a different digit. What digit does each letter represent? How did you get your answer and show steps of the solution?

$$\begin{array}{r} X Y Z \\ + Y W Y \\ \hline Z Y Z W \end{array}$$

2- Suppose the insertion sort algorithm as presented in class was applied to the list [George, Cheryl, Alice, Bob]. Describe the organization of the list at the end of each execution of the body of the outer WHILE structure of the algorithm.

3- Maximise the objective function $P = 30 * X + 50 * Y$ subject to the following constraints

$$\begin{aligned} 2 * X + Y &< 16 \\ X + 2 * Y &< 11 \\ X + 3 * Y &< 15, X, Y > 0 \end{aligned}$$

First use a graphical approach and then verify the result using simplex method.