Assignment No. 1 by Dr. Nourhan Zayed & Dr. Mostafa Salem

Pseudocode & flowchart:

1- Write a pseudocode and draw a flowchart for the following computational problems:

a) Ask the user to enter 3 numbers and then calculate and display the summation, average, and the product of these numbers.

b) Ask the user to enter the rectangle width and height then calculates and print the area and the perimeter of a rectangle. You have to display a message to the user asking for the width and height. (**Hint**: Area = length*width ; Perimeter = 2*(length + width)).

c) Design an Flowchart that computes the employee's gross salary given the hours work and the hourly rate. Assume that 15% of the salary is deducted as taxes.

d) to convert a temperature in degrees Fahrenheit to degrees Celsius. **(Hint**: Celsius = 5/9 * (Fahrenheit – 32)).

Numbering systems

1. **Convert decimal to binary:** 1.1.(12)10 1.2.(20)10 1.3.(28)10 1.4.(64)10 1.5.(102)10	2. **Convert binary to decimal:** 2.1.(00011010)2 2.2.(01010101)2 2.3.(01001111)2 2.4.(01100000)2 2.5.(01111111)2
3. **Perform the following ADD operations with detailed steps:** 3.1.(00000011)2 + (00000001)2 3.2.(00011001)2 + (00101101)2 3.3.(00011111)2 + (00011111)2 3.4.(00001111)2 + (00001110)2 3.5.(00010111)2 + (00110101)2	**4. Perform the following OR operations with detailed steps:** 4.1.(00000011)2 | (00000001)2 4.2.(00011001)2 | (00101101)2 4.3.(00011111)2 | (00011111)2 4.4.(00001111)2 | (00001110)2 4.5.(00010111)2 | (00110101)2
5. **Perform the following AND operations with detailed steps:** 5.1.(00000011)2 & (00000001)2 5.2.(00011001)2 & (00101101)2 5.3.(00011111)2 & (00011111)2 5.4.(00001111)2 & (00001110)2 5.5.(00010111)2 & (00110101)2	6. **Perform the following XOR operations with detailed steps:** 6.1.(00000011)2 & (00000001)2 6.2.(00011001)2 & (00101101)2 6.3.(00011111)2 & (00011111)2 6.4.(00001111)2 & (00001110)2 6.5.(00010111)2 & (00110101)2