Homework 2
McKinney CE311K

1. Convert the following binary numbers to decimal by multiplying each bit by its respective decimal value and summing the results:

   a) 11

   b) 11 0011

   c) 1010 1001

   d) 110 1000

2. Convert the following decimal numbers to binary:

   a) 13

   b) 42

   c) 125

   d) 255

   e) 300

3. What decimal values can be represented using one bit? one nibble? one byte? one word?

   a) bit

   b) nibble

   c) byte

   d) word

4. Perform the following binary additions:

   a) 1001101 + 10100011

   b) 1011101 + 11

   c) 10001101 + 111111

   d) 11111111 + 1

5. Given 3 numbers – a, b, and c – draw a flowchart illustrating how an algorithm to (1) input the numbers, (2) find the maximum of these three numbers, and (3) output the result would operate.

6. Given one numbers – m – draw a flowchart illustrating how an algorithm to (1) input the number, (2) find the factorial of this number, and (3) output the result would operate. Remember: x! = x*(x-1)*(x-2)…2*1 and 0! = 1

7. Create a label containing the sentence "After all is said and done, more is said that done." The sentence should occupy three lines, and each line should be centered horizontally in the label.

8. Create a "read-only" text box containing the words "Visual Basic" in bold white letters on a red background.

9. Describe the contents of the text box after the button is clicked.

```
Private Sub btnOutput_Click(…)
        txtBox.BackColor = Color.Yellow
        txtBox.Text = "Hello"
End Sub
```

10. Determine the errors in the following code:

```
Private Sub btnOutput_Click(…)
                txtBox.Text = Hello
End Sub
```

11. Write a line or lines of code to Display "Play it again, Sam." In lblTwo.

12. Simulate a traffic light with three small square text boxes placed vertically on a form. Initially the bottom text box is solid green and the other text boxes are dark gray. When the Tab key is pressed, the middle box turns yellow and the bottom box turns dark gray. The next time the Tab button is pressed the top box turns red and the middle box turns dark gray. Subsequent pressing of the Tab key cycles through the three colors.