Template Week 1 – Bits & Bytes

Student number: 570107

Bonus point assignment – week 1

Convert your student number to a hexadecimal number and a binary number.

Explain in detail that the calculation is correct. Use the PowerPoint slides of week 1.

Binary:

570107 ÷ 2 = 285053, remainder = 1

285053 ÷ 2 = 142526, remainder = 1

142526 ÷ 2 = 71263, remainder = 0

71263 ÷ 2 = 35631, remainder = 1

35631 ÷ 2 = 17815, remainder = 1

17815 ÷ 2 = 8907, remainder = 1

8907 ÷ 2 = 4453, remainder = 1

4453 ÷ 2 = 2226, remainder = 1

2226 ÷ 2 = 1113, remainder = 0

1113 ÷ 2 = 556, remainder = 1

556 ÷ 2 = 278, remainder = 0

278 ÷ 2 = 139, remainder = 0

139 ÷ 2 = 69, remainder = 1

69 ÷ 2 = 34, remainder = 1

34 ÷ 2 = 17, remainder = 0

17 ÷ 2 = 8, remainder = 1

8 ÷ 2 = 4, remainder = 0

4 ÷ 2 = 2, remainder = 0

2 ÷ 2 = 1, remainder = 0

1 ÷ 2 = 0, remainder = 1

570107 (decimal) = 1000 1011 0010 1111 1011 (binary)

Hexadecimal:

570107 ÷ 16 = 35631, remainder = 11 (which is B in hex)

35631 ÷ 16 = 2226, remainder = 15 (which is F in hex)

2226 ÷ 16 = 139, remainder = 2

139 ÷ 16 = 8, remainder = 11 (which is B in hex)

8 ÷ 16 = 0, remainder = 8

570107 (decimal) = 8B2FB