

COMP2611: Computer Organization

Tutorial 1: Programs and Numbers (Solution)

Question 1: Convert $37_{(10)}$ to the binary format.

Solution:

$$37_{(10)} = 100101_{(2)}$$

Quotient	Remainder
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18	1
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 (LSD)

9	0
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4	1
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2	0
---	---

1	0
---	---

0	1
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 (MSD)

Question 1: Convert the positive integer $101001_{(2)}$ to the decimal format.

Solution: $101001_{(2)} = 1 \times 2^5 + 0 \times 2^4 + 1 \times 2^3 + 0 \times 2^2 + 0 \times 2^1 + 1 \times 2^0_{(10)}$
 $= 41_{(10)}$

Question 1: Convert $00110010_{(2)}$ to the hexadecimal format.

Solution: $00110010_{(2)} = 32_{(16)}$

Question 1: Convert $A7_{(16)}$ to the binary format.

Solution: $A7_{(16)} = 1010\ 0111_{(2)}$