# Quiz 1

**Question 1**

Using the IEEE floating point round to even mode, the binary number 1.011010 will be rounded to _____, with 3 binary digits in the fraction part.

Selected Answer: 1.011

Correct Answer:

| Evaluation Method | Correct Answer |
|---|---|
| *Exact Match* | 1.011 |

**Question 2**

A 4-byte integer 0xFAC36EA5 is stored in the addresses 0x400, 0x401, 0x402, 0x403. Assume that the machine is little-endian, the byte in the address 0x402 is 0x_____.

Selected Answer: C. AC

Answers:

A. 6E

B. C3

C. AC

D. EA

**Question 3**

Assume we have a 7-digit binary number 1110101 represented by the two's complement encoding. If we use a 6-digit binary number to represent the same value by the two's compliment encoding, the 6-digit binary number is _____.

Selected Answer: 110101

Correct Answer:

| Evaluation Method | Correct Answer |
|---|---|
| *Exact Match* | 110101 |

**Question 4**

Given the C - code:

char a = 90;

char b = a << 3;

char c = b >> 4;

the decimal value of c is _____.

Selected Answer: 45

Correct Answer:

| Evaluation Method | Correct Answer |
|---|---|
| *Exact Match* | -3 |

**Question 5**

Given three 16-bit numbers x, y and z, where x = 0x3974, y = 0xAB92, z = 0x9D67. Fill in the blanks with logical operations (&, |, ^) such that (x __**[A]**__ y) __**[B]**__ z = 0x9066.

Specified Answer for: A ^

Specified Answer for: B &

**Correct Answers for: A**

| Evaluation Method | Correct Answer |
|---|---|
| *Exact Match* | ^ |

**Correct Answers for: B**

| Evaluation Method | Correct Answer |
|---|---|
| *Exact Match* | & |

**Question 6**

Which of the following computation is correct?

Selected Answer: D. 0x50 + 24 = 0x68

Answers:

A. 0x24C – 39 = 0x213

B. 0x23 + 37 = 0x60

C. 0x119 – 21 = 0x98

D. 0x50 + 24 = 0x68

**Question 7**

Assume we have a base-4 numbering system (binary numbers are called base-2 numbering system), which uses 0, 1, 2, 3 to represent the corresponding values of each digit. For example, the base-4 number 13 will be converted to the based-10 decimal number 7.

The base-4 number 231 will be converted to the base-10 decimal number _____.

Selected Answer: 45

Correct Answer:

| Evaluation Method | Correct Answer |
|---|---|
| *Exact Match* | 45 |