Started on	Friday, 24 September 2021, 9:52 PM
State	Finished
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Time taken	1 min 42 secs
Grade	**10.00** out of 10.00 (**100**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Suppose you buy a new hard disk and the disk packaging says its capacity is 1 TB. Does this mean the disk has a capacity of 1024×2^{30} bytes?

a. Yes

b. No ✔

Your answer is correct.

The correct answer is:
No

Question **2**

Correct

Mark 1.00 out of 1.00

The IEEE single-precision format for floating-point representation uses 32 bits, which is divided as follows:

sign → 1 bit, mantissa →23 bits, and exponent → 8 bits. If the decimal number 7.3125_{10} is represented in this format, what will be the correct mantissa? You may omit any trailing zeros in your answer(i.e., no need to write insignificant 0 digits). Also do not need to mention the base of the value(i.e., 101_2 could be written as 101).

Answer: 110101 ✔

The correct answer is: 110101

Question **3**

Correct

Mark 1.00 out of 1.00

The IEEE single-precision format for floating-point representation uses 32 bits, which is divided as follows:

sign -> 1 bit, mantissa ->23 bits, and exponent -> 8 bits. If the decimal number 31.3125_{10} is represented in this format, what will be the 8-bit exponent? You do not need to mention the base of the value(i.e., 101_2 could be written as 101).

Answer: 10000011 ✔

The correct answer is: 10000011

Question **4**

Correct

Mark 1.00 out of 1.00

What will be the output of the following Python code?

```
print ((0b1101 & ~1) | (0o033 >> 0x2))
```

Answer: 14 ✔

The correct answer is: 14

Question **5**

Correct

Mark 1.00 out of 1.00

An integer N is represented in 8-bit two's complement notation as 1001 1100_2. Which of the following is the correct decimal value of N?

Select one:

- a. 156_{10}
- b. -156_{10}
- c. -100_{10} ✔
- d. -132_{10}

Your answer is correct.

The correct answer is: -100_{10}

Question **6**

Correct

Mark 1.00 out of 1.00

An integer N is represented in 8-bit two's complement notation as 1111 0011_2. Which of the following is the **correct** decimal value of N?

Select one:

- a. 243_{10}
- b. -13_{10} ✔
- c. -125_{10}
- d. -243_{10}

Your answer is correct.

The correct answer is: -13_{10}

Question **7**

Correct

Mark 1.00 out of 1.00

Will the 8-bit two's complement representation for -15_{10} be 11110000_2?

- a. No ✔
- b. Yes

Your answer is correct.

The correct answer is:
No

Question **8**

Correct

Mark 1.00 out of 1.00

How will the number 45612.3789_{10} be represented in a decimal floating-point notation which has a 5-digit mantissa, the decimal point after the second digit from left, and 10 as the base for the exponent?

- a. 4.56123789 * 10^4
- b. 4.5612 * 10^4
- c. 45.6123789 * 10^3
- d. 45.612 * 10^3 ✔

Your answer is correct.

The correct answer is:
45.612 * 10^3

Question **9**

Correct

Mark 1.00 out of 1.00

What will be the 8-bit two's complement representation for -124_{10}?

Answer: 10000100 ✔

The correct answer is: 10000100

Question **10**

Correct

Mark 1.00 out of 1.00

Can we say that the 8-bit ASCII representation of the digit '7' is 00110111_2, considering the following interaction with the Python interpreter?

```
>>> ord('1')
49
>>> ord('8')
56
```

a. No

b. Yes ✔

Your answer is correct.

The correct answer is:
Yes

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