Drake Bridgewater & Ryan Phillips
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CS 472 HW 2

(2.5) Calculations can be performed to a precision of 0.001%. How many bits does this require?

answer here

(2.13) Perform the following calculations in the stated bases.

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a.
00110111_{2}
01011011_{2}

b.
00111111_{2}
01001001_{2}

c.
00120121_{16}
0A015031_{16}

d.
00ABCD1F_{16}
0F00800F_{16}
```

answer here

(2.14) What is arithmatic overflow? When does it occur and how can it be detected?

answer here

(2.16) Convert 1234.125 into 32-bit IEEE floating-point format.

answer here

(2.17) What is the decimal equivalent of the 32-bit IEEE floating-point value CC4CC0000

answer here

(2.22) What is the difference between a *truncation error* and a *rounding* error?

answer here

(2.40) Draw a truth table for the circuit in Figure P2.40 and explain what it does.

answer here

(2.45) It is possible to have n-input AND, OR, NAND, and NOR gates, where n>2. Can you have an n-input XOR gate for n>2? Explain your answer with a truth table.

answer here

References

[1] Alan Clements. *Computer Organization and Architecture*. Global Engineering: Christopher M. Shortt, themes and variations edition, 2014.