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Exercise 3

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## Exercise 3

4/4 points (graded)

**ESTIMATED TIME TO COMPLETE: 5 minutes**

1. True or False? The internal computer representation of any number is always an approximation.

☐ True

☒ False



2. The decimal 11 is what binary?:

☐ 11

☒ 1011

☐ 1101

☐ cannot be converted



3. True or False? The internal representation of the decimal number  $1/10 = 0.1$  requires an infinite number of digits.

☒ True

☐ False



4. After many computations, you get two floating numbers stored in variables `a` and `b`. Your code compares the numbers with `a == b`.

☐ Doing the comparison will always lead to a correct program.

☒ Doing the comparison will sometimes lead to a correct program.

☐ Doing the comparison will never lead to a correct program.



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## Exercise 3

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🗨 [Confused by wording of question 2](#)

Question 2 in the problem set is: "The decimal 11 is what binary?" The correct answer to the question is 1011. I'm confused by the wo

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question 2 in the problem sets. The decimal is what binary? The correct answer to the question is 1011. I'm confused by the wo...

? 0.1 requires infinite loops?

8

I didn't quite understand why 0.1 requires an infinite number of digits to be represented in binary. If I keep multiplying 0.1 by 2, will I

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