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Exercise 3

Finger Exercises due Aug 5, 2020 20:30 -03 *Completo*

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.



1. Some numbers, like integers, can be represented exactly.

3. Look back at the last slide in the video. "If there is no integer p such that a power of 2 multiplied by x gives me a whole number, then the best I'm going to get is an internal representation that's close." That is the case for this example.

4. When you do many computations on floats, you accumulate floating point errors. The errors accumulated for `a` and `b` may not match up, so doing may (or may not) comparison will lead to an inequality.

Enviar

i Answers are displayed within the problem

Exercise 3

Topic: Lecture 3 / Exercise 3

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💬	why didn't I receive any email subscribed about due time?	3
	I didn't receive email about due time for a long time, but today I found this part has been over.	
?	How to check whether a p exists such that $x \cdot 2^p = \text{whole number}$	1
	Is there a quick mathematical or code way to what the p is at which a number will be whole, or whet...	
✓	internal representation of the decimal number 0.1?	4 new_ 14
💬	Wording of question 3	5 new_
	Shouldn't question 3 rather ask: " True or False? The internal representation of the decimal number 1...	
✓	(Question 1) Doesn't every number represented by a computer have to be an approximation?	3
	I don't understand why the answer is false. You cannot represent any number with infinite significan...	
?	Why it requires an infinite number of digits? :(3
	I've tried it on python, and I got this The binary of 0.1 is .0001100110011001100110011001100...	
?	Can anyone explain question 4?	2 new_
	I got the question 4 right, but I'm still confused about what does ' Your code compares the number ...	
✓	Can someone explain Q2 for me?	3 new_ 5
	Same as the title	
💬	Question 3 ambiguity	2
	The answer depends on how you read the question. For 100% accurate representation of 0.1 in bina...	

