Given the following Python list:

\[ A = [(\text{"a"}, \text{"b"}), (1, 2)] \]

Is the following statement True or False?

Statement: \( A \) is mutable

Select one:
- [ ] True
- [x] False

Assume that we have a list called \( L1 \), and that it contains 1,000,000,000 integers. The integers are all the even numbers starting with 2 (2, 4, 6, 8, 10, etc) sorted in increasing order.

We also have 2 functions, \( f1() \) and \( f2() \) defined as shown below:

\[
\begin{align*}
def f1(L1): \\
& L2 = L1 \\
& if L2[0] == 2: \\
& \quad print(\ "Good") \\
& else: \\
& \quad print(\ "Bad")
\end{align*}
\]

\[
\begin{align*}
def f2(L1): \\
& L2 = L1[:2] \\
& if L2[0] == 2: \\
& \quad print(\ "Good") \\
& else: \\
& \quad print(\ "Bad")
\end{align*}
\]

We are going to pass \( L1 \) as a parameter to each function and measure its execution time. In other words, we call \( f1 \) and pass it \( L1 \). We call \( f2 \) and pass it \( L1 \). We measure how long it takes for \( f1 \) to run, and how long it takes \( f2 \) to run.

Check all the statements below that are true.

Select one:
- [ ] a. Both functions will take the same amount of time to execute.
- [x] b. \( f1() \) will take longer to run
- [ ] c. \( f2() \) will take longer to run
- [ ] d. It is totally random. Sometimes \( f1() \) will take longer on \( L1 \), some other times \( f2() \) will take longer on \( L1 \).
- [ ] e. One of the functions will take longer, but we cannot infer which one it is.

Assuming that the following program is run on a computer with enough memory to hold the large list, what will it print?

\[
\begin{align*}
L &= [] \\
for i in range(1000000000): & \# 1 followed by 9 zeros \\
& L.append((i, i\%2==0, i\%3==0, i\%5==0)) \\
print(L[-1][2])
\end{align*}
\]
Question 4
Not yet answered
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L = [ 1, 2, 3, 4, 5, "elephant" ]
print( sum( L[0:2] ) )

What is the output of the program above?

Select one:
- a. There is no output. The program generates an error because one cannot sum() an integer and a string
- b. 15
- c. 3
- d. [1, 2, 3]
- e. 6

Question 5
Not yet answered
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In Python, writing
pair = "a", 3
creates the same variable pair as writing
pair = ( "a", 3 )

Select True to indicate that "Yes, these statements are equivalent, and False to indicate "No, they are not equivalent"

Select one:
- True
- False

Next