

**NOTE: SCENARIO IS WHAT THE PUZZLE TAKER SEES.**

### SCENARIO:

You are developing a library for common I/O operations. One of the methods of this library, `readAllBytes`, takes one argument: `InputStream input` (the stream to be read), reads the stream content, and returns the result as a byte array. The snippet of code below is an implementation of the `readAllBytes` method and its test case. Consider the snippet of code below and answer the following questions, assuming that the code has all required permissions to execute.

Code:

```
01  // OMITTED: Import whatever is needed.
02  public final class IOUtils {
03      private static final int BUFFER_SIZE = 1024;
04
05      public static byte[] readAllBytes (InputStream input)
06          throws IOException {
07          ByteArrayOutputStream bytes;
08          bytes = new ByteArrayOutputStream(BUFFER_SIZE);
09
10          byte[] buffer = new byte[BUFFER_SIZE];
11          int length = 0;
12          while ((length = input.read(buffer)) != -1)
13              bytes.write(buffer, 0, length);
14
15          return bytes.toByteArray();
16      }
17
18      @Test
19      public static void testReadAllBytes () throws IOException {
20          byte[] sample = ...; // A byte array, not null, not empty;
21          InputStream stream = new ByteArrayInputStream(sample);
22          byte[] result = readAllBytes(stream);
23          assert Arrays.equals(sample, result);
24      }
25  }
```

Questions:

1. What will the `readAllBytes` method do when executed?
2. Suppose that `testReadAllBytes` is executed with a non-null, non-empty array as the `sample` variable? (Assume there are no IO exceptions while the code is executed.) Which one statement is correct?
  - a. The `readAllBytes` method always passes the test.

- b. The readAllBytes method never passes the test.
- c. The readAllBytes method is implemented correctly, but it may not pass the test.
- d. The readAllBytes method is implemented incorrectly, but it may pass the test.
- e. None of the above.

*[Other statistical questions will be imported here while creating the survey.]*

**NOTE: ANSWER IS TO BE SHOWN TO THE PUZZLE TAKER AT THE END OF THE SESSION.**

**ANSWER:**

a

If the integer value returned by the read method is ignored, there is no way to get the number of the actual bytes read by the method and stored in the buffer.

**NOTE: THE REST OF THE DOCUMENT CONTAINS EXTRA INFORMATION FOR THE PROJECT RESEARCHERS. IT IS NOT TO BE SHOWN TO THE PUZZLE TAKERS.**

**TAGS:**

java, inputstream-class, read-method, api-protocol-usage, ignoring-return-value

**CATEGORIES:**

Blindspot - NO

Type - I/O

Number of distinct functions - 8

Number of total functions - 8

Blindspot function - NA

Function call omitted - NA

Blindspot type - NA

Number of Parameters in the blindspot function - NA

Cyclomatic complexity - 4

No Blindspot, I/O, 3 functions, 3 parameters

**NAME:**

InputStream class, read method - Reads some number of bytes from the input stream and stores them in the buffer passed as argument.

**MORE INFORMATION:**

To see an incorrect way to use the API, look at the [J10-InputStream.read](#) puzzle.

**REFERENCES:**

1. [InputStream#read](#)