Unit 06_005a – Deconstructing Scanner

Video Length 25:40

1. What is `System.in` according the the System API?

2. Given the following statement, explain what each part is. (I answered the `new Scanner` question for you.)

```
Scanner input = new Scanner(System.in);
```

   - `Scanner`
   - `input`
   - `new Scanner` *calls the constructor for the Scanner class*
   - `System.in`

Unit 06_005b Reading from a File

Video Length 7:10

3. What two classes are used when reading input from a file in Java?

   →
   →

4. You will not be asked to write a try...catch block on the exam. However, you should understand its parts.

   What causes the statements in the catch() part to be executed?

   1. The catch operates after the try block finishes
   2. The catch happens after the method ends.
   3. The catch only happens if there is an error in the try block. For example, catch would execute if the try block tried to open a file, but the file was not found.
   4. The catch block executes before any other code in the method.

5. Why is the Scanner declared outside of the try block?

6. Write the code needed to open a file named "data.txt". The file name should be set in a variable. Read a string from the file, and then close the file. Do not write the try/catch block (pretend there is no need for it).

7. What is System.err? How does IntelliJ treat it differently than System.out?

8. Does the catch block always terminate the program if it is executed? If not, what do you have to do to force the program to end in the catch() block?

Unit 06_010 Booleans

Video Length 7:30

9. What values may be assigned to a boolean variable?

10. You should be able to use the following String methods. Write a statement that prints whether

    the String variable `city` contains the string "new". Test your code in IntelliJ. Change your code so that the test ignores case.

    - contains()
    - endsWith()
    - equals()
    - equalsIgnoreCase()
    - isBlank()
    - isEmpty()
    - startsWith()

section*Unit 06_015a While Loop **Video Length 17:00**

11. Explain what a while loop does.

12. What type of expression goes inside the parenthesis?

13. How long does the loop operate if the boolean expression is `true`?

14. The video does not explore this, but what would happen if `false` was the expression. Test your answer in IntelliJ and see if you are correct (You probably want to put the "Done!" statement in the program after the loop.)

section*Unit 06_015b More String Boolean **Video Length 9:20**

15. Some of the String methods have "IgnoreCase" versions of the methods. But some, such as endsWith() do not. Write the code needed to use the toLowerCase() hack to see whether the variable `word` ends with the variable `target` even if the cases do not match.

16. Explain in plain English why the toLowerCase() hack from the above question works.

Unit 06_020 Relational Operators

Video Length 11:15

17. Mathmatical symbols are show below. Write the corresponding Java relational operator.

    - $<$
    - $>$
    - $=$
    - $\neq$
    - $\geq$
    - $\leq$

18. In Java, relational operators may only be applied to primitives.

    - true
    - false

Unit 06_030 Logical Operators

Video Length 13:25

19. What name do programmers use for each of the following symbols?
    - &
    - |
    - !

20. Draw 10 & symbols. (I am serious. Then practice drawing another 10 right before the exam!)

21. What is the Java symbol for each of the following logical operations?
    - AND
    - OR
    - NOT

22. In the following statement, would the or the || operation be done first? (Assume that a, b, and c are boolean variables)

```
a || b && c
```

Unit 06_040 Truth Tables

Video Length 07:00

Explain the difference between the truth table for || and the truth table for

Unit 06_050 Ranges

Video Length 17:25

I am going to use some caulking on my driveway. The instructions on the tube say that to apply the caulking the temperature must be at least 60 degrees fahrenheit and no more than 90 degrees fahrenheit. Assume the program has already determined the temperature. Create a boolean variable that is true if it is OK to apply the caulking and is false if the temperature is out of range.

Comment or ask questions here if there are any issues you would like for the instructor to address. It is not necessary to answer if you do not have questions.