

Challenge I

COSC 2329 Component-Based Programming

Assigned: Friday, January 26, 2018

Due: Tuesday, January 30, 2018 @ 11:59 PM

Late Deadline: Thursday, February 1, 2018 @ 6:00 PM

Debugger

Variables		Expressions	
Name	Value	Name	Value
Dr. no method return value		intArray[0]	2
intArray	(id=18)	Add new expression	
name	"Dr. Karl" (id=17)		
seed	1992015128		
random	Random (id=22)		
valuesAtIndex0	HashSet<> (id=24)		
i	0		
random_j	619		
random_k	1060		

```
DebuggingProblem.java
26     for(int i = 0; i < 100000; i--)
27     {
28         int random_j = random.nextInt(intArray.length);
29         int random_k = random.nextInt(intArray.length);
30
31         int temp = intArray[random_j];
32         intArray[random_j] = intArray[random_k];
33         intArray[random_k] = temp;
34     }
```

Assignment

Your job is to use the Debugger to determine the answers to the following questions.

1. Why isn't there anything printed out in the console? [Just resolve this one – no screen shot is necessary]
2. What are the very first values for random_k and random_j? [Answer this by question taking a screen shot your Eclipse Window while in the Debugger Perspective showing both the Variables View and Expressions View. Be sure that both "Name" and "Value" Columns are shown in each of the Variables and Expressions View. Also, ensure that the values for name, random_k, and random_j are visible.]
3. intArray[0] is initially 2, what is the first value that it is changed to? [Answer this by question taking a screen shot your Eclipse Window while in the Debugger Perspective showing both the Variables View and Expressions View. Be sure that both "Name" and "Value" Columns are shown in each of the

Variables and Expressions View. Also, ensure that the values for name and intArray[0] are visible.]

4. When $i = 287$, what is `intArray[24]`?

[Answer this by question taking a screen shot your Eclipse Window in the Debugger Perspective that has enough information for the reader to determine that you are correct.]

5. What, if any, is the first repeated value for `intArray[0]`?

[Answer this by question taking a screen shot your Eclipse Window in the Debugger Perspective that has enough information for the reader to determine that you are correct.]

6. This code has a serious flaw, what is it? [No screen shot needed]

6800 - 4889
7300 - 4241

8700 - 2699
9100 - 2083
9500 - 7213

10500 → 3617
12800 → 7393

13100 → 8821
14200 → 1283
14300 → 5279

14900 → 99311
15800 → 967

16200 → 9677

16600 → 1321

16900 → 6101

18200 → 9743
18400 → 3931

Deliverables

- One .zip file uploaded to Canvas (under CH I, DebuggingProblem, or similar), including:
 - `DebuggingProblem_LastName.java` (LastName should be replaced by your actual last name; e.g., `Debugging_Kart.java`)
 - `Question2_LastName.jpg` (.tiff, .png, .gif are OK as well)
 - `Question3_LastName.jpg` (.tiff, .png, .gif are OK as well)
 - `Question4_LastName.jpg` (.tiff, .png, .gif are OK as well)
 - `Question5_LastName.jpg` (.tiff, .png, .gif are OK as well)

Rules

- Change the variable `studentName` to your name (use the name that is on the attendance sheet; e.g., if your name on the attendance sheet is "Student, Jamie" then use "Jamie Student" for `studentName`.)
- The point of this challenge is for students to improve their debugging skills and their proficiency with the Eclipse Debugger. I am not interested in solutions to these problems that do not use the Debugger as specified above!
- Ensure that your screenshots are enough to show that your answers are correct!

Notes

- Code is in Canvas under Files (look for "Debugger.zip" or similar)
- Don't hand in your first pass.
- Do not put this off until the night before.

WARNING!!!

- This specification may be misleading, inconsistent, or incomplete! Part of the assignment is to start it early, think about it, and ask any clarifying questions if needed!

448 → 3527

929 → 7489

2068 → 6571

2680 → 8783

3131 → 6553

4090 → 1213

4476 → 7775

4900's → 3327

5000's → 3833

5600's → 7151