

Unit 08_010 – Shortcut Assignment Operators

Video Length 10:00

1. Rewrite each of the following using the shortcut assignment operators.

- `n = n + 1;`

- `count = count - 2;`

- `number = number * 2;`

- `i = i / 2;`

- `q = 5 + q;`

2. Which of the shortcut operators in this unit is used most often.

Unit 08_020 – Shortcut Operators Gone Wild!

Video Length 24:03

3. Rewrite the following statements using the increment and decrement operators.

- `i += 1;`

- `count -= 1;`

4. Rewrite the following statements using the increment and decrement operators. ***But this time use two different increment and decrement operators.***

- `i += 1;`

- `count -= 1;`

5. In your own words, describe the difference between prefix and postfix operators.

6. What is a side effect in programming?
7. What would be printed by the following loop?

```
int i = 0;
while(i < 5){
    System.out.print(i++);
}
```

8. What are two ways to protect your code from unintended side effects when using increment and decrement operators?

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9. What is the practical difference between `i++` and `++i` whe the increment operators are the only items in the statement? (trick question)
 10. The beginning of the video made it look like the increment operator was just a short cut for the `+=1` operation. Explain why the increment and decrement operators are not really just shortcuts of shortcuts. (This is not discussed explicitly in the videos, so you may need to think about it.)
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11. 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.

Unit 08_030 – While loops revisited

Video Length 6:30

12. What is a pretest loop?
13. Is a while(){} loop a pretest or a post test loop?
14. In a pretest loop it is easy to skip the body of the loop and not execute it. Does skipping the body of the loop indicate there is a problem? Explain your answer.

Unit 08_040 – do while loops

Video Length 6:23

15. Is a dowhile() loop a pretest or a posttest loop?
16. Are the curly braces always necessary on a do while loop? If they are not required, explain when they are not required.

17. What is wrong with the following block of code? What would you do to fix it?

```
do{  
    double x = Math.random();  
    System.out.println(x);  
}while(x < 0.50);
```

18. Write a do while loop that asks the user to type a word. They should type "Done" when the user is finished. Ignore the case when checking done. Sample output is shown below.

```
Type a word (or "done" to end): dog  
You typed dog  
Type a word (or "done" to end): cat  
You typed cat  
Type a word (or "done" to end): DONE
```

19. What is the minimum number of times the body of a do while() loop executes?

Unit 08_050 – Counting

Video Length 24:03

20. When you are writing a counting loop, what value is the counter variable initialized to? Why is it always initialized to this value?
21. (Review, not covered in this video) In the video, `i++` was used to increment the counter. Could I have used `++i`? Would it have made a difference in the count?
22. In the video, `r` was not needed outside the loop. I didn't print it or use it in any way. So why did I have to declare it outside the loop?

Unit 08_060 – Splitting Strings

Video Length 7:00

23. What does the `split()` method return?
24. What is "regex" short for?
25. Does a simple string like ":" work when a regular expression is required?
26. Why do you think I introduced counters before we started this video?

Unit 08_070 – For Loops

Video Length 5:43

27. The `for()` loop is shorthand for another type of loop. What type of loop does the `for` loop substitute?
28. The `for` loop requires three values. What symbol separates the three values?
29. The `for` loop requires three values. What are the three values from first to last?
 - 1.
 - 2.
 - 3.
30. If there is an array of strings called `words`. Write a `for` loop that would print the strings. Remember that there are `words.length` words on the list.