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This assignment contains 6 pages (including this page) and 45 questions. Check to see if any pages are missing.

These pages are indexed to the videos for this course.

### Grading

#### ***Video 08.010 About Loops***

Sorry about the poor audio quality on the first few videos. I was apparently recording from a microphone on headphones lying on my desk.

1. In a simple while loop, is the body of the loop always executed at least one time?
2. in a `do{...}while()` loop, is the body of the loop always executed at least one time?
3. in a for loop, is the body of the loop always executed at least one time?
4. It is important to understand the syntax of each type of loop. What other things must you also learn?

#### ***08.015 Part 1 Wrappers***

5. What is the wrapper class for each of the following types?
  - int
  - double
  - boolean
  - char
  - byte
6. Some methods may be called with the name of the wrapper class. For example, `Integer.parseInt()`. Others must be called with an instance of the class before the period. What one word in the API tells you whether a method may be called with the name of the Wrapper class?
7. Can values be stored in a variable that is a wrapper class?



8. What does it mean when a method is "deprecated?"

### *015 Part 2 Parsing*

9. What is parsing?
10. A String variable `s` contains an integer. Write the single line of code to convert the string into a number and store it in an int called `number`. Do not worry about errors or exceptions.

### *08.020 Chaining methods*

11. What does the `trim()` function do?
12. Assume the String variable `line` contains a string. Write the single line of code necessary to remove the leading and trailing whitespace from `line`. Store the result in a string named `s`
13. The Scanner class uses `.nextInt()` to read an integer. What are two methods for reading a String?
  - 
  -
14. Assume that Scanner has already been used to create a scanner called `input`. Write a single command that reads a line of input from the keyboard and trims it. use chaining.

### *08.030 Scope*

15. What is a block?



16. Can blocks be nested inside each other?

```
public static void main(String[] args){  
    int a = 7;  
    if(true){  
        int b = 8;  
        //line #1  
    }else{  
        int c = 9;  
        //line #2  
    }  
    //line 3  
}
```

17. In the above block of code, is **a** visible at line #1?

18. In the above block of code, is **a** visible at line #2?

19. In the above block of code, is **a** visible at line #3?

20. In the above block of code, is **b** visible at line #1?

21. In the above block of code, is **b** visible at line #2?

22. In the above block of code, is **b** visible at line #3?

23. In the above block of code, is **c** visible at line #1?

24. In the above block of code, is **c** visible at line #2?

25. In the above block of code, is **c** visible at line #3?

Comment: The end of the video is just about the rainbow plugin in Idea.  
It will not be on the exam.

### ***08.040 Part 1 do while***

26. Is do...while a pretest or posttest loop?

27. Is the body of a do...while loop always executed at least one time?

28. The do...while loop is often associated with getting user input. Why is the do...loop especially useful for getting user input?



29. All variables used in the boolean expression after `while()` must be declared outside the `do{}` block. Why is this true?
30. Why does writing the condition for a while get confusing and error-prone?
31. What is the instructor's "hack" for fixing the tricky logic of `do...while`? What is the side benefit of this method?

### ***08.040 Part 2 Errors Everywhere***

32. Should your program run correctly no matter what the user enters? Explain your answer.
33. When assigning a default value for a loop control, what type of value should you initialize to, if possible? Why?
34. How is `System.err` different than `System.out`?

Comment: You will not need to write a `try...catch` block from scratch on an exam. But you should be able to write them in your programs.

35. A String variable `s` contains an integer. Write the code to convert the string into a number and store it in an int called `number`. Print an appropriate message if an exception occurs.

### ***08.040 Part 3, Strings and Char***

36. Write a program that asks the user if they want the red pill or the blue pill. Ask the user to type in either "red" or "blue." Your snippet of code



should use a do...while to only accept the words "red" or "blue." If the user types anything else they should get an error message telling them to type red or blue. Read the user input as a line. Use chaining to trim() the input and convert it to lower case characters.

37. Rewrite the above block, but accept either "r" or "b". This should just be the first character if they type in the full name of the color. So "blue" and "blunder" would both be accepted.

### *05.050 for loop*

38. What are the three clauses in the for loop?

- 
- 
- 

39. is the for loop a pretest loop or a posttest loop?

40. What should the variables i, j, and k be used for?

41. Write a for loop that prints the digits 5 up to 25.

***08.060 while Part 1***

Panopto trashed the sound quality. I will try to rerender the file and re-upload. Turning on CC may help.

42. is a while loop a pretest or a posttest loop?

***08.060 Part 2***

Audio is still bad here. I think it is because Panopto is changing the frame rate.

43. In a sentinel-controlled loop, what do you need to do before the loop starts?
44. In a sentinel-controlled loop, what is the last thing you should do in the body of the loop?

***08.070 nested loops***

45. Suppose you have a nested loop. The outer loop executes 5 times. The inner loop executes 10 times. How many times will the body of the inner loop execute?