

Grade 12 Final Exam Review

<p>1. Name the 10 String functions.</p> <p>4 important ones 3 to clean up input 3 for boolean expressions</p>	<p>4 important ones length substring charAt indexOf</p> <p>3 to clean up input toUpperCase toLowerCase replace</p> <p>3 for boolean expressions equals equalsIgnoreCase compareTo</p>
<p>2. How do you pull off the first letter of a String?</p>	<p>s.charAt(0)</p>
<p>3. What String function is used to pull out part of a String?</p>	<p>Substring</p>
<p>4. What String function is used to pull out a single character from a String from a specific location?</p>	<p>charAt</p>
<p>5. What String function finds the location of first instance of a character in a String?</p>	<p>indexOf</p>
<p>6. A String function that returns a char.</p>	<p>charAt</p>
<p>7. Two String functions that return a number</p>	<p>Length indexOf</p>
<p>8. What is the start and end index of s.substring (3,7)?</p>	<p>Start at 3 End at 6</p>
<p>9. What is the trick for substring?</p>	<p>Start at the first number Stop BEFORE the second number</p>
<p>10. Define white box testing.</p>	<p>Testing that occurs by looking at the code. Your goal is to run each line of code.</p>
<p>11. Define black box testing.</p>	<p>Testing that occurs without looking at the code. Your goal is to input as many different things as possible.</p>
<p>12. Testing that runs each line of code.</p>	<p>White Box Testing</p>
<p>13. Testing that looks at different kinds of input.</p>	<p>Black Box Testing</p>
<p>14. What are the white box test cases?</p>	<p>If: 1. Test each branch</p> <p>Loop: 2. Avoid Loop. 3. Loops once. 4. Loop many times</p>
<p>15. What are the black box test cases?</p>	<p>1. Small data 2. Large data 3. Average data 4. Boundary cases</p>

16. What is a good integer black box test case for small data ?	5
17. What is a good integer black box test case for large data ?	123,456,789
18. What is a good integer black box test case for average data ?	45
19. What are 3 good integer black box test cases for boundary data ?	1. -1 2. 0 3. 1
20. What is a good String black box test case for small data ?	a (one letter word)
21. What is a good String black box test case for large data ?	Anti dis establish men tarian ism (the longest word, or one of them)
22. What is a good String black box test case for average data ?	computer
23. What is a good String black box test case for boundary data ?	1. An empty string – "" (two quotes with nothing in the middle) 2. A number 3. Dashes and special characters
24. Test this loop: <pre>for (int i=0; i<s.length(); i++)</pre>	1. Avoid Loop – empty string – "" (two quotes with nothing in the middle) 2. Loop once – string of one character - A 3. Loop many times – Normal string- COMPUTER
25. What does ORATE stand for?	Organization Reusability Abstraction Testing Extensibility
26. The name of the first line of the method?	Method signature
27. A subprogram	A method
28. The name of the thing that is sent back from the method?	Return type
29. The name of the output of the method	Return type
30. The name of the input of the method	Parameter
31. Why is a method signature important?	It contains all of the information needed to call the method: (1) return type, (2) name, (3) parameters.
32. The name of the things that are sent into the method	Parameter
33. The position of the return type in the method signature	Second word, right after public.
34. What is in the brackets of the method signature?	Parameter
35. The position of the method name in the method signature	Third word.
36. The opening word of the method signature	Public
37. The position of the parameter type in the method signature	First word in the brackets.

38. What are two parts of a recursive method?	1. Base case 2. Recursive case
39. What is a base case used for?	1. Stops the recursion. 2. Returns the first value that all others build on
40. What is a recursive case use for?	1. Reduces the problem using a smaller parameter 2. Repeats by calling itself
41. What is the name of variables inside an Object's class?	Instance variables
42. A keyword restricting variables access to inside a class	Private
43. A method that is automatically called when the variable's name is printed	ToString
44. A method that checks if two objects are the same	equals
45. A method that returns 1, 0, -1	CompareTo
46. The opposite keyword to private.	Public
47. A template for an object or a type. Also contains a java programs.	Class
48. An object method type that returns the values of instance variables	Accessor
49. An object method type that sets up dynamic memory.	Constructor
50. An object method type for methods that don't easily fit the other groups.	Facilitator
51. An object method type that sets aside RAM for the instance variables and initializes them.	Constructor
52. An object method that converts the object to a String and returns it.	toString
53. An object method type that changes the values of instance variables	Mutator
54. A non-primitive type	Object
55. Data and methods that act upon data.	Object
56. Name the 3 object oriented principles	Abstraction Encapsulation Information Hiding
57. Programmers can think of a problem at a higher more removed level.	Abstraction
58. Keeping an object's code self-contained and independent of other code.	Encapsulation
59. Removing direct access to instance variables from other programmers.	Information Hiding
60. Keeps the code stable.	Information Hiding
61. Keeps the code moveable.	Encapsulation
62. Keeps the code useable.	Abstraction
63. Return type of toString?	String
64. Return type of mutators?	void
65. Return type of compareTo?	Int

66.	Return type of equals?	Boolean
67.	An ADT used to code an undo button	Stack
68.	An ADT used to code a line of people at a grocery store	Queue
69.	An ADT used for FIFO	Queue
70.	An ADT used for LIFO	Stack
71.	An ADT used to store recursive method calls	Stack
72.	An ADT used to store a back button.	Stack
73.	An ADT used to model cars on a road	Queue
74.	An ADT used to model loading an airplane.	Queue
75.	An ADT to hold print jobs for a printer	Queue
76.	An ADT to hold changes to a bank account	Queue
77.	An ADT that could model a pile of books well.	Stack
78.	An ADT where you add to the front and remove from the front	Stack
79.	An ADT where you add to the back and remove them the front.	Queue
80.	An ADT where you add to the front and remove from the back	Queue
81.	An ADT where you add to the back and remove from the back.	Stack
82.	An ADT where you add to the top and remove from the top.	Stack
83.	How do you switch a Queue to a Queue of a Frog class?	Switch all Objects to Frog
84.	Write code that declares a stack	Stack s = new Stack();
85.	Write code that declares a queue	Queue q = new Queue();
86.	The speeds in order.	O(1) or Constant Time O(log n) O(n) O(n log n) O(n ²) O(n ³) O(n!)
87.	Speed of swap	O(1)
88.	Speed of find length of array	O(1)
89.	Speed of find max	O(n)
90.	Speed of selection sort	O(n ²)
91.	Speed of bubble sort – best case	Close to O(n)
92.	Speed of bubble sort – average case	O(n ²)
93.	Speed of quick sort	O(n log n)
94.	Speed of mergesort	O(n log n)
95.	Speed of merge	O(n)
96.	Speed of binary search	O(log n)
97.	Speed of linear search	O(n)
98.	Speed of bogosort	O(n!)
99.	Speed of Stack push	O(1)

100. Speed of Stack pop	$O(1)$
101. Speed of Queue peek	$O(1)$
102.	