1. What is a loop?

A loop is a control structure that runs a block of code multiple times

2. What are the two categories of loops?

1. for-loops

2. while-loops

3. Write out the Java syntax for a while-loop

while (<boolean\_expression>) {

<body>

}

4. What does “iterate” mean?

Iterate means to loop. A single iteration refers to a single pass through a loop

5. How can you make an infinite while-loop in Java?

while (true) {

...

}

6. Write out the Java syntax for a do-while-loop

do {

<body>

} while(<boolean\_expression>);

7. What is the difference between a while-loop and a do-while-loop?

A do-while-loop is guaranteed to run at least one time, a while-loop is not

8. Write out the Java syntax for a for-loop

for (int i = 0; i < <number\_of\_iterations>; i++) {

<body>

}

9. What is the main difference between a for-loop and a while-loop?

A for-loop runs a specific number of times, and a while-loop runs as long as a condition is true

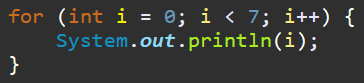
10. Write a for-loop that prints every odd number between 3 and 19 (inclusive)

for (int i = 3; i <= 19; i++){

System.out.println(i);

}

11. Convert the following for-loop to a while-loop:



int i = 0;

while (i < 7){

System.out.println(i);

i++;

}

12. When should you use a for-loop versus a while-loop?

You should use a for-loop when you know how many times you want to iterate (such as looping through an array), and a while-loop when you don’t know how many times you want to iterate

13. Write out the Java syntax for a for-each-loop

for (<data\_type> <name> : <collection>){

<body>

}

14. What do continue and break do?

continue skips to the next iteration, and break ends the loop altogether

15. What is an array?

An array is a list of variables

16. Write out the Java syntax for declaring an array

<data\_type>[] <name> = new <data\_type>[<size>];

OR

<data\_type> <name>[] = new <data\_type>[<size>];

17. Create a String array of size 10

String[] arr = new String[10];

18. What symbols are always used when working with arrays in Java?

Square brackets ([])

19. What is an index?

An index represents a location in an array

20. What is the first index in a Java array?

The first index in a Java array is 0. This is known as zero-based indexing

21. How do you get the number of items in an array named “arr”?

arr.length

22. Write a for-loop that iterates over an int array named “arr” and prints out each value

for (int i = 0; i < arr.length; i++){

System.out.println(arr[i]);

}

23. Write a for-each-loop that does the same thing

for (Integer i : arr){

System.out.println(i);

}

24. Write a for-loop that iterates over an int array and sums together every number less than 5

int sum = 0;

for (int i = 0; i < arr.length; i++){

if (arr[i] < 5){

sum += arr[i];

}

}

System.out.println(sum);

25. Fix the errors in the following code (one error per line):

int[] arr = **new** int[10]; // missing **new** keyword

for (int i = 0; i < arr.**length**; i++){ // arr.**length**, not arr.size

arr**[**i**]** = i \* 10; // use **[]**, not ()

}

26. Write out the code to swap two elements in an array:

int[] arr = new int[5];

// swap index 0 and index 1

int temp = arr[0];

arr[0] = arr[1];

arr[1]; = temp;