

Quiz 2 Review

Name: (Key) 9/13/19

Finish before class starts Wednesday. After school Monday I will post a worked-out key on my web site for you to check answers and/or get help before class starts. I also can help you during Tutorial Tuesday.

1. What is printed by the following code?

```
String str = "Nirvana";
System.out.println(str.substring(3,6));
```

van

2. What is printed by the following code?

```
String str = "Nirvana";
System.out.println(str.indexOf("n"));
```

5

3. What is printed by the following code?

```
String str = "Nirvana";
System.out.println(str.substring(5));
```

na

4. What is printed by the following code?

```
String str = "Nirvana";
System.out.println(str.substring(str.length()-2));
```

na

5. What is printed by the following code?

```
String str = "Nirvana";
System.out.println(str.substring(1,2));
```

i

6. What is printed by the following code?

```
System.out.println( 7/2 + "$" );
```

3\$

7. What is printed by the following code?

```
System.out.println( "$" + 7 + 2 );
```

\$72

8. Finish this statement to store the maximum integer value in the variable x:

```
int x = Integer.MAX_VALUE;
```

9. Create a Scanner object named "scan". Use it to get an integer value from the user that you store in a variable x. Don't print anything, just create a scanner and get a value.

```
Scanner scan = new Scanner(System.in);
int x = scan.nextInt();
```

10. Using the scanner object from problem 9 get a double value from the user and store it in a double variable price.

```
double price = scan.nextDouble();
```

11. Using the scanner object from problem 9 get a String value from the user and store it in a String variable str.

```
String str = scan.nextLine();
```

12. Write code to store the square root of integer n in the double variable x:

```
int n = scan.nextInt();
double x = Math.sqrt(n);
```

13. Write code to raise integer n to the 5th power in double variable x:

```
int n = scan.nextInt();
double x = Math.pow(n,5);
```

13. Store the absolute value of integer n in double variable x:

```
int n = scan.nextInt();
double x = Math.abs(n);
```

14. Write code to store a random integer between 12 and 15 inclusive in x:

```
int x = (int) (Math.random() * 4) + 12;
```

15. Write code to store a random integer between -10 and 10 inclusive in x:

```
int x = (int) (Math.random() * 21) - 10;
```

16. Write code to store a random even integer between 4 and 10 inclusive in x.

```
int r = (int) (Math.random() * 4) + 2;
```

```
int x = r * 2;
```

↑  
times 2 gives what I asked for  
r is an integer in this range: 2, 3, 4, 5

17. Given a properly initialized String variable str containing at least 2 characters, write code to store a copy of str in a new String str2 that is missing the last character. For example the String "dog" would be saved as "do" in str2.

```
String str2 = str.substring(0, str.length() - 1);
```

Questions 18 through 24 use this class:

```
public class Frog
{
    private int location;

    public Frog()
    {
        location=0;
    }

    public void hop()
    {
        location++;
    }

    public int getLocation()
    {
        return location;
    }
}
```

18. Write a line of code that creates a new Frog object named "frankie":

```
Frog frankie = new Frog();
```

19. Write a line of code that makes frankie hop forward one space.

```
frankie.hop();
```

20. Write a line of code the prints frankie's location.

```
System.out.println(frankie.getLocation());
```

21. Fill in the blanks to create an accurate statement:

The object frankie is an instance of Frog

22. Fill in the blanks to create an accurate statement:

The class Frog has an attribute location

23. True/False:

frankie is an instance of object Frog

↓ Frog is a CLASS

24. True/False:

Frog is an instance of class frankie

↑ If we swapped Frog + frankie it would be true

23. True/False:

Object frankie has an attribute location

24. What is printed by the following code?

```
Frog hubba = new Frog();
hubba.hop();
hubba.hop();
hubba.hop();
System.out.println(hubba.getLocation());
```

↑

Questions 25 through 27 use this class:

```
public class Book
{
    private String title;
    private String author;
    private int year;

    public Book(String t)
    {
        title = t;
        author = "Unknown";
        year = 0;
    }

    public Book(String t, String a, int y)
    {
        title = t;
        author = a;
        year = y;
    }
}
```

25. Write a line of code to create a Book object named awesome with a title of "Mr. Java", an author of "Hays", and a year of 2020.

`Book awesome = new Book("Mr. Java", "Hays", 2020);`

26. Write a line of code to create a Book object named story with a title of "How I spent my summer" when you do not know the author or year.

`Book story = new Book("How I spent my summer");`

27. Which constructor header would not be possible to use as a third constructor for this class. Why?

`public Book(String author)`

`public Book(int year)`

B/c we already have a constructor that accepts a single string.

28. Complete the following method which is meant to return a String created using Strings a and b where String b is inserted exactly in the middle of String a. Assume String a has an even number of characters and is at least 2 characters long. Example: spooky, cat → spocatoky

```
public String mashup(String a, String b)
{
    return a.substring(0, a.length()/2) + b + a.substring(a.length()/2);
}
```

29. Complete the following method which is meant to return a String made up of the first and last characters of String a. Assume String a is at least 2 characters long.

```
public String startAndEnd(String a)
{
    return a.substring(0, 1) + a.substring(a.length() - 1);
}
```

30. Complete the following method which is meant to return a random integer between integers a and b inclusive.

```
public int randomizer(int a, int b)
{
    return (int) (Math.random() * (b - a + 1)) + a;
}
```