

AP CS A

Unit 2. Using Objects. Exercises

Assume all code runs unless suggested otherwise.

1. Is there a Cat class?

- a) Yes, there must be.
- b) No, it is not required for this code to run.

2. How many Cat objects are instantiated?

2

3. The *meow* method

- a) has no parameters.
- b) has one parameter.
- c) has two parameters.

4. The return type of the *meow* method is:

- a) int
- b) double
- c) boolean

5. The *purr* method

- a) has no parameters.
- b) has one parameter.

6. The return type of the *purr* method is:

- a) int
- b) double
- c) boolean

7. How many objects are created?

1

8. What parameters does the *nextInt* method have?

- a) one int parameter
- b) no parameters

9. *nextInt* is a method of what class?

- a) sal
- b) Scanner
- c) Main

10. What is the return type of *balance*?

double

```
public class Main {  
    public static void main(String[] args) {  
        Cat a = new Cat();  
        Cat b = new Cat();  
        int n = 5;  
        double x = b.meow( n, 7 );  
        boolean boo = a.purr();  
    }  
}
```

```
import java.util.Scanner;  
  
public class Main {  
    public static void main(String[] args) {  
        Scanner sal = new Scanner( System.in );  
        System.out.println("Enter a number ");  
        int n1 = sal.nextInt();  
  
        Seal gh = new Seal( n1 );  
        double num = gh.balance( true, 14 );  
    }  
}
```

21. What is printed? <i>A//B\\C</i>	String x = "A//B\\C"; System.out.println(x);
22. What is printed? <i>\G</i>	String y = "\\G\\n\\\\"; System.out.println(y);
23. Select the TRUE statement. a) This does not run. b) It runs and prints \\ c) It runs and prints \	String z = "\\\" + "\\\"; System.out.println(z);
24. Select the TRUE statement. a) This does not run. b) It runs and prints 2 3	int a = 2; int b = 3; String c = a + "\\n" + b; System.out.println(c);
25. What is displayed? <i>6</i>	String s = "ok go!"; // a space between words System.out.println(s.length());
26. What is displayed? <i>ple</i>	String s1 = "apple"; String s2 = s1.substring(2); System.out.println(s2);
27. What is displayed? <i>CC</i>	String g = "course"; String h = g.substring(0, 1); String j = g.substring(0, 1); System.out.println(h+j);
28. What method of the Scanner class returns a String object? <i>nextLine()</i>	Scanner sam = new Scanner(System.in); System.out.println("Enter a string"); String s = sam.nextLine(); int n = s.length(); String a = s.substring(n - 2); System.out.println(a);
29. If the user enters <i>balloon</i> , what is printed? <i>on</i>	
30. If the user enters <i>DOG</i> , what is printed? <i>OG</i>	
31. If the user enters <i>boats</i> , what is printed? <i>oat</i>	Scanner sam = new Scanner(System.in); System.out.println("Enter a string"); String s = sam.nextLine(); int n = s.length(); String b = s.substring(1, n - 1); System.out.println(b);
32. If the user enters <i>bug</i> , what is printed? <i>u</i>	
33. What is printed? <i>RN</i>	String z = "BARN"; z = z.substring(1); z = z.substring(1); System.out.println(z);
34. What is printed? This runs but is a little tricky. <i>BARN</i>	String z = "BARN"; z.substring(1); z.substring(1); System.out.println(z);

35. What is printed? O	String a = "there their the"; int n1 = a.indexOf("the"); System.out.println(n1);
36. What is printed? -1	String a = "there their the"; int n1 = a.indexOf("The"); System.out.println(n1);
37. What is printed? 0 0 1	String a = "eerie"; int n1 = a.indexOf("e"); System.out.println(n1); int n2 = a.indexOf("e", 0); System.out.println(n2); int n3 = a.indexOf("e", 3); System.out.println(n3);
38. What is printed? 2 1 -1	String w = "banana"; int k = w.indexOf("n"); System.out.println(k); k += 1; k = w.indexOf("n", k); System.out.println(k); k += 1; k = w.indexOf("n", k); System.out.println(k);

39. What is printed? False	String a = " \$\$ "; String b = "\$"; System.out.println(a.equals(b));
40. What is printed? false	String a = "Pony"; String b = "pony"; System.out.println(a.equals(b));
41. What is displayed? a) hop, hop b) HOP, hop	String s4 = "HOP"; String s5 = s4.toLowerCase(); System.out.println(s4 + ", " + s5);
42. What is displayed? a) TREE, tree b) tree, tree	String s8 = "TREE"; String s9 = s8.toLowerCase(); s8.toLowerCase(); System.out.println(s8 + ", " + s9);

43. How many parameters does the String class's length method have? 0

44. What is the return type of the equals method? boolean

45. What is displayed? 0	String s1 = ""; int n = s1.length(); System.out.println(n);
46. This prints a) a positive number b) a negative number	String a = "ponies"; String b = "pony"; System.out.println(a.compareTo(b));

47. This prints a) a positive number b) a negative number	String a = "Jackel"; String b = "Ibis"; System.out.println(a.compareTo(b));
48. This prints a) 10 b) 10.0	System.out.println(Math.sqrt(100));
49. This code does not compile. The error message is: Type mismatch: cannot convert from double to int What is the problem? <i>Sqrt() method returns a double value. A double can't be assigned to an int variable.</i>	int x = 49; int y = Math.sqrt(x); System.out.println(y);
50. What is the value of y? <i>NaN</i>	double x = -14; double y = Math.abs(x);
51. If the data type of y was changed to int, would the code still run? <i>yes</i>	
52. What is printed? <i>1 0</i>	double z1 = Math.pow(3, 0); System.out.println(z1); double z2 = Math.pow(0, 3); System.out.println(z2);
53. n is a random integer in the range: [<u>4</u> , <u>11</u>]	int n = (int)(8 * Math.random()) + 4;
54. There is an error in this statement. What is the problem? <i>doubles can't be assigned to an int variable. (int) turns the number next to it to an int which doesn't make the Math.random() method an int, so this results a double</i>	int x = (int) 6 * Math.random();
55. k is a random integer in the range: [<u>0</u> , <u>99</u>]	int k = (int)(100 * Math.random());
56. k is a random integer in the range: [<u>-9</u> , <u>1</u>]	int q = (int)(6 * Math.random()) - 4;
57. List all the integers that might be printed. <i>3 6 9</i>	int m = (int)(3 * Math.random()) + 1; m = 3 * m; System.out.println(m);

58. Complete the code so that h is assigned a random integer in the range [10, 16]

int h = (int)(Math.random()*7)+10;

59. Complete the code so that num is assigned a random integer in the range [-12, -4]

int num = (int)(Math.random()*9)+12