

Note: Correct responses are based on Java, J2sdk v 6.0, from Sun Microsystems, Inc. All provided code segments are intended to be syntactically correct, unless otherwise stated (i. e. `error` is an answer choice) and any necessary Java 2 Standard Packages have been imported. Ignore any typographical errors and assume any undefined variables are defined as used.

QUESTION 1	
What is 24_5 plus 46_7 ?	
A. 143_7	B. 111000_2 C. 111100_2 D. 120_6 E. 127_{13}
QUESTION 2	
What is output by the code to the right?	double a = 7.3; a = a * 2; System.out.println(a);
A. 7.2 B. 14.6 C. 14.0 D. 23.0 E. There is no output due to a syntax error.	
QUESTION 3	
What is output by the code to the right?	Integer b = (int)Math.ceil(5/2); b = b%2; System.out.println(b);
A. 0 B. 2 C. 3 D. 1 E. There is no output due to a syntax error.	
QUESTION 4	
What is output by the code to the right?	for(int c=14; c>5; c=c-3) System.out.print(c);
A. 1411 B. 14 C. 141185 D. 14118 E. 11853	
QUESTION 5	
What is output by the code to the right?	String d = "what up doc"; System.out.print(d.endsWith("doc"));
A. 0 B. -1 C. true D. false E. no	
QUESTION 6	
What is output by the code to the right?	double[] ray = {11,9,2,8,4}; System.out.println(ray[1]+ray[2]);
A. 11.0 B. 20.0 C. 12.0 D. 10.0 E. 22.0	
QUESTION 7	
What is output by the code to the right?	boolean bulene = false; boolean bowlane = true; bulene = !bulene && bowlane; System.out.println(bulene);
A. yes B. no C. maybe D. true E. false	
QUESTION 8	
What is output by the code to the right?	int theNum = 7; if(theNum == 6) System.out.print(0); else if(theNum == 5) System.out.print(1); else System.out.print(2); System.out.print(3);
A. 0123 B. 03 C. 123 D. 012 E. 23	
QUESTION 9	
What is output by the code to the right?	public class Great{ private int num = 4; public Great(int n){ num=n; } } //////////////////////////////////// //client code Object jim = new Great(6); System.out.println(jim.num);
A. 0 B. 4 C. 6 D. 10 E. There is no output due to a syntax error.	

QUESTION 10	
What is output by the code to the right? A. 10 B. 15 C. 13 D. 18 E. 12	<code>System.out.println(10 7 9);</code>
QUESTION 11	
What is output by the code to the right? A. 7 B. 7.0 C. 8.0 D. 8 E. 7.9	<code>System.out.println(Math.sqrt(49));</code>
QUESTION 12	
What is output by the code to the right? A. 97 B. A C. 65 D. a E. c	<code>System.out.printf("%c", 97);</code>
QUESTION 13	
What is output by the code to the right? A. 0 B. 3 C. 6 D. 9 E. 7	<code>int[][] theMat = new int[3][3]; theMat[0] = new int[7]; theMat[0][6]=9; System.out.println(theMat[0][6]);</code>
QUESTION 14	
What is output by the code to the right? A. 88 B. 45 C. 94 D. 72 E. 100	<code>int iSum=0; for(int i=2; i<40; i=i+5){ if(i%2==0) iSum -= i; iSum += i; } System.out.println(iSum);</code>
QUESTION 15	
What is output by the code to the right? A. 9 B. 10 C. 11 D. 8 E. 12	<code>String j = "cs is great"; System.out.print(j.length());</code>
QUESTION 16	
What is output by the code to the right? A. 8905 B. 2345 C. \r890 D. 2340 E. There is no output due to a syntax error.	<code>System.out.print("2345\r890");</code>
QUESTION 17	
What is output by the code to the right? A. 9 B. 5.0 C. 5.5 D. 4.5 E. 9.0	<code>System.out.println(9.5 % 5);</code>
QUESTION 18	
What is output by the code to the right? A. false B. true C. stop D. 0 E. 1	<code>boolean k = false, m = true; System.out.println(k ^ (m && !k));</code>
QUESTION 19	
What is output by the code to the right? A. [1, -2, 3, 0, 5, 2, 7, 4, 9, 6] B. [1, -1, 3, 1, 5, 3, 7, 5, 9, 7] C. [-2, 2, 0, 4, 2, 6, 4, 8, 6, 10] D. [-1, 2, 1, 4, 3, 6, 5, 8, 7, 10] E. There is no output due to a runtime error.	<code>Integer[] z = {1,2,3,4,5,6,7,8,9,10}; List iList = Arrays.asList(z); ArrayList<Integer> n; n = new ArrayList<Integer>(iList); for(int fun : n) if(fun%2==1) n.set(fun, fun-3); System.out.println(n);</code>

QUESTION 20 What is output by the code to the right? A. 7.5 B. 7 C. 7.0 D. 7.25 E. 7.25	<pre>double dbl = 15/Math.abs(-2); System.out.println(dbl);</pre>
QUESTION 21 What is output by the code to the right? A. 3 B. 5 C. 6 D. 7 E. 8	<pre>long big = 2L; int count = 0; do{ if(big==22) break; big += 4; count++; }while(big < 60); System.out.println(count);</pre>
QUESTION 22 What is returned by the method call <code>what(new int[] {3,4,5,6,7,8,9,90,0})</code> ? A. 8 B. 6 C. 5 D. 7 E. 3	<pre>public static int what(int[] x) { int back=0; for(int it : x) { if(it>0&&it<10) ++back; if(it>10&&it<20) --back; } return back; }</pre>
QUESTION 23 What is returned by the method call <code>what(new int[] {0,1,5,2,7,11,9,6,8})</code> ? A. 8 B. 6 C. 5 D. 7 E. 3	
QUESTION 24 What is output by the line marked <code>//1</code> in the client code to the right? A. 7 B. 8 C. 2 D. 4 E. There is no output due to a syntax error.	<pre>public class It{ private int num; public It(int n){ setNum(n); } public void setNum(int n){ num=n; } public int getNum(){ return num; } } public class UpGo{ public static void up(It a, It b){ a=b; } public static void go(It a, It b){ b=a; b.setNum(2); a.setNum(4); } }</pre> <pre>//////////////////////////////////// //client code It fred = new It(7); It wilma = new It(8); out.println(fred.getNum()); //1 UpGo.up(fred, wilma); out.println(fred.getNum()); //2 UpGo.go(fred, wilma); out.println(fred.getNum()); //3</pre>
QUESTION 25 What is output by the line marked <code>//2</code> in the client code to the right? A. 7 B. 8 C. 2 D. 4 E. There is no output due to a syntax error.	
QUESTION 26 What is output by the line marked <code>//3</code> in the client code to the right? A. 7 B. 8 C. 2 D. 4 E. There is no output due to a syntax error.	<pre>//////////////////////////////////// //client code It fred = new It(7); It wilma = new It(8); out.println(fred.getNum()); //1 UpGo.up(fred, wilma); out.println(fred.getNum()); //2 UpGo.go(fred, wilma); out.println(fred.getNum()); //3</pre>

<p>QUESTION 27</p> <p>Which of the following could replace <*1> in the code to the right?</p> <p>A. Collection B. List C. LinkedList D. A and B only E. A, B, and C</p>	<pre><*1> <Integer> intList; intList = new LinkedList<Integer>(); for(int i=0; i<20; i+=2) intList.addFirst(i);</pre>
<p>QUESTION 28</p> <p>Assuming that <*1> is filled correctly, what is output by the line marked <code>//1</code> in the code to the right?</p> <p>A. [8, 6, 4, 2, 0] B. [8, 6, 4, 2] C. [2, 4, 6, 8, 0] D. [0, 4, 8] E. [1, 3, 5, 7, 9]</p>	<pre>for(int i=0; i<intList.size(); i++){ if(intList.get(i)%2==0) intList.removeFirst(); } out.println(intList); //1</pre>
<p>QUESTION 29</p> <p>What is returned by the method call <code>wow(1)</code> ?</p> <p>A. 17 B. 29 C. 21 D. 11 E. 28</p>	<pre>public static int wow(int x) { if(x<10) return x + wow(x+2); else return 3; }</pre>
<p>QUESTION 30</p> <p>What is returned by the method call <code>wow(-6)</code> ?</p> <p>A. 17 B. 29 C. 21 D. 11 E. 28</p>	
<p>QUESTION 31</p> <p>What is output by the code to the right?</p> <p>A. 61 B. 73 C. 68 D. 54 E. 64</p>	<pre>System.out.println(0x33 + 021);</pre>
<p>QUESTION 32</p> <p>What type of tree traversal is shown by the code to the right?</p> <p>A. in-order traversal B. post-order traversal C. pre-order traversal D. reverse-order traversal E. level-order traversal</p>	<pre>public void print(TreeNode tree) { if(tree != null) { print(tree.getLeft()); print(tree.getRight()); out.println(tree.getValue()); } }</pre>
<p>QUESTION 33</p> <p>What is output by the line marked <code>//1</code> in the code to the right?</p> <p>A. 65 B. 48 C. 32 D. 97 E. 7</p>	<pre>Map<String, Integer> map; map = new TreeMap<String, Integer>(); map.put("A", 65); map.put("a", 97); map.put("0", 48); map.put("space", 32); map.put("beep", 7);</pre>
<p>QUESTION 34</p> <p>What is output by the line marked <code>//2</code> in the code to the right?</p> <p>A. 65 B. 48 C. 32 D. 97 E. 7</p>	
<p>QUESTION 35</p> <p>What is output by the line marked <code>//3</code> in the code to the right?</p> <p>A. A B. a C. 0 D. space E. beep</p>	

QUESTION 36

Which of the following replaces **<*1>** in the code to the right so that method `test` will return the largest value in `ray`?

- A. `ray[0]`
- B. `ray`
- C. `x`
- D. `who`
- E. `ray[i]`

```
public class What
{
    public static int test(int[] ray)
    {
        int who = ray[0];
        for(int i=1; i<ray.length; i++)
        {
            int x = ray[i];
            if(x>who)
                who=x;
        }
        return <*1>;
    }
}

////////////////////////////////////
//client code
int[] stuff = {-19,81,172,61,-24,80,1211};
out.println(What.test(stuff));    //1
```

QUESTION 37

Assuming that **<*1>** is filled correctly, what is output by the line marked `//1` in the client code to the right?

- A. -19
- B. 172
- C. 1211
- D. 61
- E. 80

QUESTION 38

Assume that method `superSort(Object[] objs)` is $O(N^2)$ where $N = \text{obj.length}$. When method `superSort` is passed an Object array of length 10000 it takes 0.05 seconds for method `superSort` to complete. If method `superSort` is passed an Object array of length 5000, how many seconds would it take `superSort` to complete?

- A. 0.010
- B. 0.25
- C. 0.05
- D. 0.20
- E. 0.0125

QUESTION 39

Which of the following could replace **<*1>** in the code to the right so that `tally` would increase by one each time the `if` statement was found true?

- A. `tally++;`
- B. `tally = tally + 1;`
- C. `tally = new Integer(tally.intValue()+1);`
- D. A and B only
- E. A, B, and C

```
String x =
    "whipyoohakbyoohpubyakpybabhdak";

x=x.replaceAll("ooh","");

String[] list = x.split("[pub]");
String look = "yak";
Integer tally = new Integer(0);

for(String that : list)
    if(look.matches(that))
        <*1>

out.println(tally);    //1
```

QUESTION 40

Assuming that **<*1>** is filled correctly, what is output by the line marked `//1` in the client code to the right?

- A. 3
- B. 5
- C. 4
- D. 2
- E. 1