

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 the product of  $1001_2$  and 7 ?

- A.  $101_8$     B.  $111110_2$     C.  $40_{16}$     D.  $63_8$     E. 63

**QUESTION 2**

What is output by the code to the right?

- A. 0.0    B. 8.0    C. 0.125    D. 0    E. 8

```
int y = 64;
int x = 8;
System.out.println(y / x);
```

**QUESTION 3**

What is output by the code to the right?

- A. 101    B. 0    C. 7    D. 90    E. 100

```
int x=10;
for(int i=4;i<25;i+=3)
    x+=i;
System.out.println(x);
```

**QUESTION 4**

What is output by the code to the right?

- A. ARGL    B. RAGE    C. GARGG    D. LAG    E. GARL

```
String s = "LARGE";
s = s.substring(1,4);
s = s.substring(2,3) + s;
s += s.substring(3);
System.out.print(s);
```

**QUESTION 5**

What is output by the code to the right?

- A. A    B. B  
C. I    D. 74  
E. 70

```
char[] a = {3 , 5 , 7 , 9 , 2};
System.out.println(a[25/8]+65);
```

**QUESTION 6**

What is output by the code to the right?

- A. false    B. true  
C. 0    D. 1  
E. 1.0

```
double a = 2.0;
System.out.println( a / 2 < 0);
```

**QUESTION 7**

What is output by the code to the right?

- A. p    B. stop  
C. pots    D. s  
E. There is not output.

```
char x = 's';
switch (x){
    case 1: System.out.println("p");
    case 0: System.out.println("o");
    case 65: System.out.println("t");
    case 115: System.out.println("s");
}
```

**QUESTION 8**

What is output by the code to the right?

- A. true    B. false  
C. 32    D. 43  
E. 63

```
System.out.print( 32 | 8 | 3 );
```

**QUESTION 9**

Which of the following produces the same results as a call to the code to the right for all values of y less than 10 ?

- A.  $x \ll y$                       B. `Integer.toString(x, y)`  
 C.  $x \% y$                       D.  $y - x$   
 E.  $x * y$

```
public String my( int x, int y )
{
    String t = "";
    while( x > 0 ){
        t = x % y + t;
        x /= y;
    }
    return t;
}
```

**QUESTION 10**

What is returned by the method call `my( 4, 9 )` ?

- A. 0              B. 48              C. 3              D. -8              E. 4

**QUESTION 11**

What is returned by the method call `my( 37, 3 )` ?

- A. 0              B. 1101              C. 12              D. 34              E. 111

**QUESTION 12**

What is output by the code to the right ?

- A. 713                      B. 1,811  
 C. 1811                      D. 912  
 E. %,d

```
System.out.printf( "%,d\n", 0x713 );
```

**QUESTION 13**

What is returned by the method call `pow( 2, 4 )` ?

- A. 6              B. 16.0              C. 4              D. 4.0              E. 9

```
public double pow( int x, int y ){
    return Math.pow( Math.min( x, y ), 2 );
}
```

**QUESTION 14**

What is output by the code to the right ?

- A. 0              B. 4              C. true  
 D. false              E. a

```
int x = 68;
int y = 3;
boolean b;
b = x >> y < y;
System.out.print( b );
```

**QUESTION 15**

What is output by the code to the right ?

- A. WMC              B. WRA              C. WMSD              D. 10              E. 134

```
int sum=0;
for( char a='W'; a>='A'; a-=10 )
    sum = a + a;
System.out.print( sum );
```

**QUESTION 16**

What is output by line marked //1 in the code to the right?

- A. true              B. false              C. 0              D. 1              E. 2

```
Map< String, Integer > map;
map = new TreeMap< String, Integer >();
map.put( "partridge", 1 );
map.put( "doves", 2 );
map.put( "hens", 3 );
map.put( "swans", 7 );
map.remove( "3" );
out.print( map.containsKey( "2" ) ); //1
out.print( map.entrySet().remove( 2 ) ); //2
out.print( map.keySet().size() ); //3
```

**QUESTION 17**

What is output by line marked //2 in the code to the right?

- A. true              B. false              C. 0              D. 1              E. 2

**QUESTION 18**

What is output by line marked //3 in the code to the right?

- A. 0              B. 1              C. 2              D. 3              E. 4

<p><b>QUESTION 19</b></p> <p>What is output by the code to the right ?</p> <p>A. 38      B. 43      C. 34      D. 40      E. 400</p>	<pre>int a = 34, x, y, z; x = a * 8 % 10; y = a % 10 * 8; z = a / 8 % 10; System.out.println(x + y + z);</pre>
<p><b>QUESTION 20</b></p> <p>What is the value of m[6][4] when the code to the right is executed ?</p> <p>A. 1      B. 0      C. 12      D. 5      E. 9</p>	<pre>int[][] m = new int [8][5]; Arrays.fill(m[0],3); for(int c=1; c&lt;m[1].length; c+=2)     for(int r=0; r&lt;m.length; r+=4)         m[r][c] = r * c;</pre>
<p><b>QUESTION 21</b> 9</p> <p>What is the value of m[2][4] when the code to the right is executed ?</p> <p>A. 5      B. 3      C. 12      D. 0      E. 7</p>	
<p><b>QUESTION 22</b></p> <p>What is output by the code to the right ?</p> <p>A. -4      B. -2      C. -1      D. true      E. false</p>	<pre>ArrayList &lt;Integer&gt; m; m = new ArrayList &lt;Integer&gt;(); m.add(3); m.add(15); m.add(4); int a=Collections.binarySearch(m,17); System.out.println(a);</pre>
<p><b>QUESTION 23</b></p> <p>What is output by the code to the right ?</p> <p>A. 20      B. 6      C. 13      D. 8      E. 10</p>	<pre>String s = "bananas and candy"; int x = s.lastIndexOf("an"); System.out.println(x);</pre>
<p><b>QUESTION 24</b></p> <p>What is the output if x.size() fills blank &lt;*1&gt; ?</p> <p>A. 1      B. 2      C. 7      D. 8      E. 4</p>	<pre>Stack &lt;Integer&gt; x; x = new Stack&lt;Integer&gt;(); int n = 0; for(int i = 0; i &lt; 20; i+=2){     if(i % 5 == 0)         x.push(i);     else if (i % 5 == 1)         x.push(n);     else         x.peek(); } out.println( &lt;*1&gt; );</pre>
<p><b>QUESTION 25</b></p> <p>What is the output if x.peek() fills blank &lt;*1&gt; ?</p> <p>A. 0      B. 2      C. 5      D. 6      E. 1</p>	
<p><b>QUESTION 26</b></p> <p>What is the output if x.push(7) fills blank &lt;*1&gt; ?</p> <p>A. 3      B. 2      C. false      D. 7      E. true</p>	
<p><b>QUESTION 27</b></p> <p>What is output by the code to the right ?</p> <p>A. true false false      B. true true true C. false false true      D. true false true E. false false false</p>	<pre>Double d1 = new Double(3.7); Double d2 = d1; Double d3 = 3.7; out.print((d1 == d1) + " "); out.print((d2 == d3) + " "); out.println(d1.equals(d3));</pre>
<p><b>QUESTION 28</b></p> <p>What is output by the code to the right ?</p> <p>A. 48      B. 51      C. 18      D. 53      E. 54</p>	<pre>int x = (6 + 06 + 0x06); System.out.println(x);</pre>

<p><b>QUESTION 29</b></p> <p>What is output by the code to the right ?</p> <p>A. 6            B. 4            C. 2            D. 3            E. 1</p>	<pre>String s="Now/is/the/time"; String[] t =s.split("[\\Wi]"); System.out.print( t.length );</pre>
<p><b>QUESTION 30</b></p> <p>What is output by line marked //1 in the code to the right?</p> <p>A. 12345                      B. 4321                      C. 1</p> <p>D. 122345                    E. 1234</p>	<pre>String s = "1/2+2/3*4/5"; Scanner scan; scan = new Scanner(s); scan.useDelimiter("[+/*]"); String output = ""; while(scan.hasNextInt()) {     output += scan.next(); } System.out.println(output);           //1 String[] o = output.split(" "); System.out.println(o.length);         //2</pre>
<p><b>QUESTION 31</b></p> <p>What is output by line marked //2 in the code to the right?</p> <p>A. 0            B. 1            C. 2            D. 3            E. 4</p>	<pre>Integer[] n = {3,4,2,1,4,3}; List s = new ArrayList(); s.addAll(Arrays.asList(n)); Set t = new TreeSet(s); Iterator i = t.iterator(); while(i.hasNext()) {     System.out.print(i.next()+" "); } System.out.println(s);</pre>
<p><b>QUESTION 32</b></p> <p>What is output by line marked //1 in the code to the right?</p> <p>A. 1 2 3 4</p> <p>B. 3 4 2 1 4 3</p> <p>C. 4 2 1 3</p> <p>D. 4 3 2 1</p> <p>E. Order cannot be determined</p>	<pre>Integer[] n = {3,4,2,1,4,3}; List s = new ArrayList(); s.addAll(Arrays.asList(n)); Set t = new TreeSet(s); Iterator i = t.iterator(); while(i.hasNext()) {     System.out.print(i.next()+" "); } System.out.println(s);</pre>
<p><b>QUESTION 33</b></p> <p>What is output by line marked //2 in the code to the right?</p> <p>A. [3, 4, 2, 1, 4, 3]</p> <p>B. [1, 2, 3, 3, 4, 4]</p> <p>C. [1, 2, 3, 4]</p> <p>D. [2, 1, 4, 3]</p> <p>E. [4, 3, 2, 1]</p>	<pre>Integer[] n = {3,4,2,1,4,3}; List s = new ArrayList(); s.addAll(Arrays.asList(n)); Set t = new TreeSet(s); Iterator i = t.iterator(); while(i.hasNext()) {     System.out.print(i.next()+" "); } System.out.println(s);</pre>
<p><b>QUESTION 34</b></p> <p>What is the value of a[0].length?</p> <p>A. 4            B. 5            C. 6            D. 15            E. 35</p>	<pre>int i=5, j=6, k = 4; int [][] a; a = new int[i][j]; for(int x=1; x&lt;a.length; x++) for(int y=1; y&lt;a[0].length; y++) for(int z=k; z&gt;0; z--) a[x][y]= z/x - z/y;</pre>
<p><b>QUESTION 35</b></p> <p>How many times will the line marked //1 be executed?</p> <p>A. 20            B. 80            C. 24            D. 60            E. 200</p>	<pre>int i=5, j=6, k = 4; int [][] a; a = new int[i][j]; for(int x=1; x&lt;a.length; x++) for(int y=1; y&lt;a[0].length; y++) for(int z=k; z&gt;0; z--) a[x][y]= z/x - z/y;</pre>
<p><b>QUESTION 36</b></p> <p>How many elements does matrix a contain?</p> <p>A. 20            B. 24            C. 30            D. 120            E. 200</p>	<pre>int i=5, j=6, k = 4; int [][] a; a = new int[i][j]; for(int x=1; x&lt;a.length; x++) for(int y=1; y&lt;a[0].length; y++) for(int z=k; z&gt;0; z--) a[x][y]= z/x - z/y;</pre>

**QUESTION 37**

What is output by the code to the right ?

- A. 1 13 17 21 25 29 5 9
- B. 1 5 9 13 17 21 25 29
- C. 1 5 10 15 20 25 30
- D. 1 4 7 10 14 21 25
- E. there will be no output due to an error

```
List <String> a ;
a= new ArrayList<String>();

for(int x=1;x<30;x+=4){
    a.add(Integer.toString(x));
}
```

**QUESTION 38**

What type of sort does the output represent ?

- A. Merge Sort
- B. Radix Sort
- C. Bubble Sort
- D. Heap Sort
- E. Insertion Sort

```
Collections.sort(a);
for(String h: a ){
    System.out.print(h+ " ");
}
```

**QUESTION 39**

What is output by line marked //1 in the code to the right?

- A. {3=three, 2=TWO, 1=ONE}
- B. {3=three, 3=THREE, 2=TWO, 1=ONE}
- C. [3, 2, 1]
- D. [three, TWO, ONE]
- E. [THREE, three, TWO, ONE]

```
Map h = new HashMap();

h.put("3", "THREE");
h.put("1", "ONE");
h.put("2", "TWO");
h.put("3", "three");
```

**QUESTION 40**

What is output by line marked //2 in the code to the right?

- A. {3=three, 2=TWO, 1=ONE}
- B. {3=three, 3=THREE, 2=TWO, 1=ONE}
- C. [3, 2, 1]
- D. [three, TWO, ONE]
- E. [THREE, three, TWO, ONE]

```
System.out.println(h); //1

System.out.println(h.keySet()); //2
```