SELF TEST

The following questions will help you measure your understanding of the material presented in this chapter. Read all of the choices carefully, as there may be more than one correct answer. Choose all correct answers for each question.

Java Operators (Sun Objective 5.1)

1. Which two are equal? (Choose two.)

A. 32 / 4;
B. (8 >> 2) << 4 ;
C. 2 ^ 5;
D. 128 >>> 2;
E. (2 << 1) * (32 >> 3);
F. 2 >> 5;

2. Given the following,

```
1.    import java.awt.* ;
2.     class Ticker extends Component  {
3.        public static void main (String [ ] args)  {
4.              Ticker t = new Ticker ( ) ;
5.
6.        }
7.    }
```

Which two of the following statements, inserted independently, could legally be inserted into line 5 of this code? (Choose Two.)

A. boolean test = (Component instanceof t) ;
B. boolean test = (t instanceof Ticker) ;
C. boolean test = t. instanceof (Ticker) ;
D. boolean test = (t instanceof Component) ;
E. boolean test = t.instanceof (Object) ;
F. boolean test = (t instanceof String) ;

3. Given the following,

```
1.    class Equals  {
2.       public static void main (String [ ] args)  {
3.             int x = 100;
4.             double y = 100.1;
5.             boolean b = (x = y) ;
6.             System.out.println(b);
7.       }
8.    }
```

What is the result?

A. true
B. false
C. Compilation fails
D. An exception is thrown at runtime

4. Given the following,

```
1.  import java.awt.Button;
2.   class CompareReference  {
3.     public static void main (String [ ] args)  {
4.          float f = 42.0f ;
5.          float [ ] f1 = new float [2] ;
6.          float [ ] f2 = new float [2] ;
7.          float [ ] f3 = f1 ;
8.          long x = 42 ;
9.          f1 [0] = 42.0f;
10.    }
11.  }
```

Which three statements are true? (Choose Three).

A. f1 = = f2
B. f1 = = f3
C. f2 = = f1 [1]
D. x = = f1 [0]
E. f = = f1 [0]

5. Given the following,

```
1.  class BitShift  {
2.     public static void main (String [ ] args)  {
3.          int x = 0x80000000;
4.          System.out.print (x + " and ");
5.          x = x >>> 31;
6.          System.out.println (x);
7.     }
8.  }
```

What is the output from this program?

A. – 2147483648 and 1
B. 0x80000000 and 0x00000001
C. – 2147483648 and -1
D. 1 and -2147483648
E. None of the Above

6. Given the following,

```
1.  class Bitwise  {
2.     public static void main (String [ ] args)  {
```

```
3.              int x = 11 & 9;
4.              int y = x ^ 3;
5.              System.out.println ( y | 12 );
6.          }
7.      }
```

What is the result?

A. 0
B. 7
C. 8
D. 14
E. 15

7. Which of the following are legal lines of code? (Choose all that apply.)

A. int w = (int) 888.8;
B. byte x = (byte) 10000L;
C. long y = (byte) 100;
D. byte z = (byte) 100L;

Logical Operators (Sun Objective 5.3)

8. Given the following,

```
1.      class Test  {
2.          public static void main (String [ ] args)   {
3.              int x = 0;
4.              int y = 0 ;
5.              for (int z = 0; z < 5; z ++)  {
6.                  if ( (  ++x > 2 ) || (  ++y > 2 ) )  {
7.                      x ++;
8.                  }
9.              }
10.             System.out.println (x + " " + y);
11.         }
12.     }
```

What is the result?

A. 5 3
B. 8 2
C. 8 3
D. 8 5
E. 10 3
F. 10 5

9. Given the following,

```
1.    class Test  {
2.       public static void main (String [ ] args)  {
3.             int x = 0;
4.             int y = 0;
5.             for (int z = 0; z < 5; z ++)  {
6.                if ( (  ++x > 2 ) && ( ++y > 2 ))   {
7.                      x++;
8.                }
9.             }
10.            System.out.println (x + " " + y);
11.      }
12.   }
```

What is the result?

A. 5 2
B. 5 3
C. 6 3
D. 6 4
E. 7 5
F. 8 5

10. Given the following,

```
1.    class SSBoo1  {
2.       public static void main (String [ ] args)  {
3.             boolean b1 = true;
4.             boolean b2 = false;
5.             boolean b3 = true;
6.             if ( b1 & b2 | b2 & b3 | b2 )
7.                System.out.print ("ok  ");
8.             if ( b1 &b2 | b2 & b3 | b2 | b1 )
9.                System.out.println ("dokey");
10.      }
11.   }
```

What is the result?

A. ok
B. dokey
C. ok dokey
D. No output is produced
E. Compilation error
F. An exception is thrown at runtime

11. Given the following,

```
1.    class Test  {
```

```
2.      public static void main (String [ ] args)  {
3.          int x = 20 ;
4.          String sup = (x<15)? “small”: (x<22)?”tiny”:”huge” ;
5.          System.out.println (sup);
6.      }
7.  }
```

What is the result of compiling and running this code?

A. small
B. tiny
C. huge
D. Compilation fails

12. Given the following,

```
1.  class BoolArray  {
2.      boolean  [ ] b = new boolean [ 3 ];
3.      int count = 0;
4.
5.      void set (boolean  [ ] x, int i)  {
6.          x [i] = true;
7.          ++count;
8.      }
9.
10.     public static void main (String [ ] args)  {
11.         BoolArray ba = new BoolArray ( );
12.         ba.set (ba.b, 0);
13.         ba.set (ba.b, 2);
14.         ba.test ( );
15.     }
16.
17.     void test ( )  {
18.         if ( b[0] && b[1] | b[2] )
19.             count++;
20.         if ( b[1] && b[ (++count – 2) ]  )
21.             count += 7;
22.         System.out.println (“count = “ + count);
23.     }
24. }
```

What is the result?

A. count = 0
B. count = 2
C. count = 3
D. count = 4
E. count = 10
F. count = 11

Passing Variables into Methods (Sun Objecrive 5.4)

13. Given the following,

```
1.    class Test  {
2.       static int s;
3.
4.       public static void main (String [ ] args)  {
5.             Test p = new Test ( );
6.             p.start ( );
7.             System.out.println (s);
8.       }
9.
10.      void start ( )  {
11.            int x = 7;
12.            twice (x);
13.            System.out.print (x + " ");
14.      }
15.
16.      void twice (int x)  {
17.            x = x*2;
18.            s = x;
19.      }
20.   }
```

What is the result?

A. 7 7
B. 7 14
C. 14 0
D. 14 14
E. Compilation fails
F. An exception is thrown at runtime

14. Given the following,

```
1.    class Test  {
2.       public static void main (String [ ] args)  {
3.             Test p = new Test ( );
4.             p.start ( );
5.       }
6.
7.       void start ( )  {
8.             boolean  b1 = false;
9.             boolean  b2 = fix(b1);
10.            System.out.println (b1 + " " + b2);
11.      }
12.
13.      boolean fix (boolean b1)  {
14.            b1 = true;
```

```
15.             return b1;
16.         }
17.     }
```

What is the result?

A. true true
B. false true
C. true false
D. false false
E. Compilation fails
F. An exception is thrown at runtime

15. Given the following,

```
1.      class PassS  {
2.          public static void main (String [ ] args)  {
3.              PassS p = new PassS ( );
4.              p.start ( );
5.          }
6.
7.          void start ( )  {
8.              String s1 = “slip”;
9.              String s2 = fix(s1);
10.             System.out.println (s1 + “ “ + s2);
11.         }
12.
13.         String fix (String s1)  {
14.             s1 = s1 + “stream”;
15.             System.out.print (s1 + “ “);
16.             return “stream”;
17.         }
18.     }
```

What is the result?

A. slip stream
B. slipstream stream
C. stream slip stream
D. slipstream slip stream
E. Compilation fails
F. An exception is thrown at runtime

16. Given the following,

```
1.      class SC2  {
2.          public static void main (String [ ] args)  {
3.              SC2 s= new SC2 ( );
```

```
4.              s.start ( );
5.          }
6.
7.          void start ( )  {
8.              int a = 3;
9.              int b = 4;
10.             System.out.print (“ “ + 7 + 2 + “ “ );
11.             System.out.print (a + b);
12.             System.out.print (“ “ + a + b + “ “ );
13.             System.out.print (foo( ) + a + b + “ “);
14.             System.out.println (a + b + foo( ) );
15.         }
16.
17.         String foo( )  {
18.             return “foo”;
19.         }
20.     }
```

What is the result?

A. 9 7 7 foo 7 7foo
B. 72 34 34 foo34 34foo
C. 9 7 7 foo34 34foo
D. 72 7 34 foo34 7foo
E. 9 34 34 foo34 34foo

17. Given the following,

```
1.      class PassA  {
2.          public static void main (String [ ] args)  {
3.              PassA p = new PassA ( );
4.              p.start ( );
5.          }
6.
7.          void start ( )  {
8.              long [ ] a1 = {3, 4, 5};
9.              long [ ] a2 = fix (a1);
10.             System.out.print (a1 [0] + a1 [1] + a1 [2] + “ “);
11.             System.out.println (a2 [0] + a2 [1] + a2 [2]);
12.         }
13.
14.         long [ ] fix (long [ ] a3)  {
15.             a3 [1] = 7;
16.             return a3;
17.         }
18.     }
```

What is the result?

A. 12 15

B. 15 15
C. 3 4 5 3 7 5
D. 3 7 5 3 7 5
E. Compilation fails
F. An exception is thrown at runtime

18. Given the following,

```
1.    class Two  {
2.       byte x;
3.    }
4.
5.    class PassO  {
6.       public static void main (String [ ] args)  {
7.             PassO p = new PassO ( );
8.             p.start ( );
9.       }
10.
11.      void star ( )  {
12.            Two t = new Two ( );
13.            System.out.print (t.x + " ");
14.            Two t2 = fix (t);
15.            System.out.println (t.x + " " + t2.x);
16.      }
17.
18.      Two fix (Two tt)  {
19.            tt.x = 42 ;
20.            return tt ;
21.      }
22.   }
```

What is the result ?

A. null null 42
B. 0 0 42
C. 0 42 42
D. 0 0 0
E. Compilation fails
F. An exception is thrown at runtime