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 110110_2 plus 110_8 ?

A. 1111111_2 B. 1110110_2 C. 1111110_2 D. 101011_2 E. 101111_8

QUESTION 2

What is output by the code to the right?

A. 4   B. 18   C. 64   D. 18.0   E. 36

```
int x = 2, y = 6;
double z = 3;
System.out.print(y * x + x * z);
```

QUESTION 3

What could replace **<*1>** so that 96 is the output?

A. 17   B. 9   C. 6   D. 5

E. There is no output due to an infinite loop.

```
int x = 6;
for(int i = 1; i < <*1>; i += i)
  x = x * 2;
System.out.print(x);
```

QUESTION 4

What is output by the code to the right?

A. s   B. last

C. first   D. t

E. There is no output due to a runtime error.

```
String s = new String("first");
String t = new String();
t = s;
s = "last";
System.out.print(t);
```

QUESTION 5

What is output by the code to the right?

A. 0   B. 1   C. 20   D. 25   E. 55

```
int[] odds = new int[10];
int total = 0;
for(int i=1; i <= odds.length;i+=2)
  total += odds[i];
System.out.print( total );
```

QUESTION 6

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

A.   twain   B. wo twain wrecks

C.   ain wrecks   D. two twain wrecks

E.   ot

QUESTION 7

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

A. wrecks   B. two

C. two twain   D. wo wrecks

E. twain

QUESTION 8

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

A. two   B. twain

C. wain   D. wrecks

E. There is no output due to a runtime error.

```
String twick1 = "two twain wrecks";
int one = twick1.indexOf("w");
twick1 = twick1.substring(one);
int two = twick1.lastIndexOf("w");

String twick2;
twick2 = twick1.substring(one+2,two);

String twick3;
twick3 = twick1.substring(two);

System.out.print(twick1);      //1
System.out.print(twick2);      //2
System.out.print(twick3);      //3
```

QUESTION 9

What is output by the code to the right?

A. 0   B. 2   C. 4   D. 3

E. There is no output due to a runtime error.

```java
char[][] imat = {{'a','b','c'},
                 {'d','e','f','g'},
                 {'h','i'},
                 {'j','k','l'}};
System.out.println( imat.length);
```

QUESTION 10

What is output by the code to the right?

A. true   B. 1   C. false   D. 0   E. 13

```java
Boolean result;
result = 2 > 1 && 1 <= 1;
System.out.println( result );
```

QUESTION 11

What is output by the code to the right?

A. 12.45 B. 12.46   C. $12.45   D. $12.46   E. $12.00

```java
double result = 12.4567;
System.out.printf("$%.2f",result);
```

QUESTION 12

What is output by the code to the right?

A. 10   B. 2   C. 3   D. true   E. false

```java
System.out.println((26|5)==(24|7));
```

QUESTION 13

What is the smallest possible output of the code to the right?

A. 1   B. 0   C. 10   D. .01   E. 5

```java
System.out.println(Math.random()*10);
```

QUESTION 14

What is output by the code to the right?

A. 16

B. 26

C. 32

D. 8

E. 10

```java
int result = 30;
int x = -2;
while( x < result ) {
  x *= x;
  if(x%2==0)
    result -= x;
}
System.out.print(result);
```

QUESTION 15

What is output by the code to the right?

A. 64

B. 66

C. 102

D. 0

E. b

```java
int a=66;
char b='a';
int result=0;
switch (b) {
  case 'b': result++; break;
  case 65 : result--; break;
  case 0  : result=0; break;
  default : result='f';
}
System.out.println(result);
```

QUESTION 16

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

A. [b ,d ,a ,c]   B. false   C. [d ,b ,a ,c]
D. true   E. b d a c

QUESTION 17

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

A. 3   B. 4   C. 2
D. true   E. false

```java
ArrayList<String> a1;
a1 = new ArrayList<String>();

a1.add("a");
a1.add(0, "b");
a1.add("c");
a1.add(1,"d");
out.println(a1);             //1
out.println(a1.size());      //2
```

QUESTION 18	
| What is output by the code to the right?<br><br>A. `false`   B. `true`   C. `stop`   D. `0`     E. `1` | ```java
boolean i = true, j = false;
System.out.println(i | j & i);
``` |

QUESTION 19	
| What is output by the code to the right?<br><br>A. `12.5515 3.0000 1.4543 0.9999 1.2222`<br>B. `12.55 3 1.454 .9999 1.222`<br>C. `12.56 3.00 1.46 1.00 1.22`<br>D. `12.00 3.00 1.00 1.00 1.00`<br>E. `12.55 3.00 1.45 1.00 1.22` | ```java
double[] a =
{12.5515,3,1.4543,0.9999,1.22222};

for(double t : a)
    System.out.printf("%4.2f ",t);
``` |

QUESTION 20	
| What is the value of x after the code to the rights executes?<br><br>A. `0`     B. `3`     C. `2`     D. `32`<br>E.  The code to the right results in a runtime error. | ```java
int x = 4321;
x%=x/10;
x++;
``` |

QUESTION 21	
| What is output by the code to the right?<br><br>A. `oognorn`<br>B. `longhorn`<br>C. `losongonhoerrn`<br>D. `sooner`<br>E. `healrimoroovbu` | ```java
String r = "";
int count=1;
String[] sArray = {"hello", "also",
    "ring", "moon", "roho",
    "over", "burn"};
for(String s : sArray){
  if( count%2==1)
    r+= s.substring(s.length()-2);
    count++;
}
System.out.print( r );
``` |

QUESTION 22	
| What is returned by `myst(23)` ?<br><br>A. `23`    B. `1`    C. `0`    D. `true`    E. `false` | ```java
public int myst(int num){
    return (num>0) ? myst(num-1) : num;
}
``` |

QUESTION 23	
| What is output by the code to the right?<br><br>A. `0`    B. `-2`    C. `-1`    D. `1`    E. `2` | ```java
double s = -1.3;
int r = (int)Math.ceil(s);
System.out.print(r);
``` |

QUESTION 24	
| What is output by the code to the right?<br><br>A. `4541`        B. `1445`<br>C. `5441`        D. `145`<br>E.  The output of the code will vary from one execution to the next. | ```java
Set<Integer> tSet = new
                TreeSet<Integer>();
tSet.add(4);
tSet.add(5);
tSet.add(4);
tSet.add(1);
for(int result : tSet)
  System.out.print(result);
``` |

QUESTION 25	
| What is output by the code to the right?<br><br>A. `24`    B. `48`    C. `18`    D. `30`    E. `0` | ```java
int r = 0;
for(int s = 0; s < 5; s+=2)
  for(int t = s; t <= 5; t++)
      r += 2;
System.out.print(r);
``` |

QUESTION 26

What is the output by the code to the right?

A. aacaaccaacaaccc   B. aacaacccc   C. acacac

D. aacaaccaaccc   E. cccaccc

```
String a = "a";
for(int c = 3; c > 0; c--)
  a += a + "c";
System.out.print(a);
```

QUESTION 27

What is output by the code to the right?

A. 3 2 11   B. 3 1 10   C. 1 1 10
D. 2 2 12   E. 3 2 12

```
String a = "my.school@state.uil";
String[] s = a.split("[.]");
String[] t = a.split("@");
String[] u = a.split("[^aeiouy]");
out.println(s.length + " " +
        t.length + " " + u.length);
```

QUESTION 28

What is output by the code to the right?

A. true false false   B. true true true

C. false false true   D. true false true

E. false false false

```
Double t1 = new Double(-21.5);
Double t2 = t1;
Double t3 = -21.5;
out.print((t1 == t2) + " ");
out.print((t1 == t3) + " ");
out.println(t1.equals(t3));
```

QUESTION 29

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

A. 0

B. 1

C. 2

D. 3

E. 4

```
public class Trick
{
  private int a;

  public void bump(){ a++; }

  public void thump(){a += this.a; }

  public int jump(){ return a;  }
}
```

QUESTION 30

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

A. 2

B. 0

C. 1

D. 4

E. 3

```
/////////////////////////////////
//client code
Trick u = new Trick();
System.out.print(u.jump());  //1
u.bump();
u.thump();
System.out.print(u.jump());  //2
u = new Trick();
u.jump();
u.jump();
System.out.print(u.jump());  //3
```

QUESTION 31

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

A. 0

B. 2

C. 1

D. 5

E. 4

QUESTION 32	

What is output by the code to the right?

A. `>^>^>^>^`

B. `^^^>^`

C. `^>^^>^`

D. `>^<^>^<^`

E. There is no output due to a runtime error.

QUESTION 33	

What is the output if all occurrences of `String` in the try statement are replaced with `Integer`?

A. `>^<^>^<^`

B. `<^<^<^<^`

C. `<^>^<^<^`

D. `<^>^<^>^`

E. There is no output due to a runtime error.

```java
Object[] r = new Object[]
{
   "Java",
   new Integer(7),
   new String("Rocks"),
   new Character('!')
};

for(int i=0;i<r.length;i++)
{
  try {
    String a;
    a = new String((String)r[i]);
    out.print(">");
  }
  catch (Exception e) {
    out.print("<");
  }
  finally {
    out.print("^");
  }
}
```

QUESTION 34	

What is output by the code to the right?

A. `[8.1, 6.0]`

B. `[6, 8, 5]`

C. `[6.0, 8.1]`

D. `[3.4, 5.2, 8.1, 6.0]`

E. There is no output due to a runtime error.

```java
Stack<Double> r;
r = new Stack<Double>();
r.push(6.);
r.push(8.1);
r.push(5.2);
r.push(3.4);
r.pop();
r.pop();
r.peek();
out.println(r);
```

QUESTION 35	

What is output by the code to the right?

A. `9`

B. `5`

C. `2`

D. `1`

E. `-3`

```java
int[] ray = { 1, 2, -3, 5, 9, 0};
Arrays.sort(ray);
out.print(ray[3]);
```

QUESTION 36

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

A. `Furry 0`
B. `Furry 1`
C. `Furry 2`
D. `Furry 3`
E. `Furry 5`

QUESTION 37

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

A. `Furry 0`
B. `Furry 1`
C. `Furry 2`
D. `Furry 3`
E. `Furry 5`

QUESTION 38

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

A. `Furry 1 2`
B. `Furry 1 5`
C. `Furry 5 5`
D. `Furry 3 3`
E. `Furry 3 5`

QUESTION 39

What is output by the line marked `//4` in the client code to the right?

A. `Furry 1 2`
B. `Furry 1 5`
C. `Furry 5 5`
D. `Furry 3 2`
E. `Furry 3 5`

QUESTION 40

Which of the following could method r return?

   I.   The index of the last occurrence of `t` in `s`
  II. The index of the first occurrence of `t` in `s`
III. `-1` if `t` is not in `s`.

A. `I` only   B. `II` only
C. `III` only   D. `I` and `II` only
E. `II` and `III` only

```java
public class Rabbit
{
  private int c;

  public Rabbit (){
    c = 1;
  }
  public Rabbit (int lots){
    c = lots;
  }
  public void setLittle() {
    c = 3;
  }
  public String toString(){
      return "Furry " + c;
  }
}
public class Bunny extends Rabbit
{
  private int c;

  public Bunny() {
    c = 2;
  }
  public Bunny(int lots){
    c = lots;
  }
  public void setSmall(){
    c = 5;
  }
  public String toString() {
    return super.toString()+" "+c;
  }
}

///////////////////////////////////
//client code
Rabbit fur = new Rabbit ();
out.println(fur);    //1
fur.setLittle();
out.println(fur);    //2
fur = new Bunny();
out.println(fur);    //3
fur.setLittle();
out.println(fur);    //4
```

```java
public int r(int[] s, int t){
  int spot = 0;
  for(int i : s)
  {
    if( i == t )
      return spot;
    spot++;
  }
  return -1;
}
```