Question 1 out of 40 questions

You are given the following array of integers a[2,5,3,7,4,9,10,1]. What will be the final array after you execute the method mystery using this array?

```
public static void mystery(int[] a){
   for(int i = 1; i < a.length; i++)
   {
      int current = a[i];
      int j = i-1;

      while((j >= 0) && (a[j] > current)){
         a[j+1] = a[j--];
      }

      a[j+1] = current;
   }
}
```

Answer a:
a[1,2,3,4,5,7,9,10]

Answer b:
a[1,2,5,3,7,4,9,10]

Answer c:
a[2,5,3,7,4,9,10,1]

Answer d:
a[2,1,3,4,5,7,9,10]

Answer e:
a[10,9,7,5,4,3,2,1]

Question 2 out of 40 questions

Consider the following method.

```
 /**
   * Method to do a selection sort on
   * an array of integers
   */
  public static void selectionSort(int[] numberArray)
  {
    int temp; // used to hold value
```

```
    for (int i = 0; i < numberArray.length - 1; i++)
// line 1
    {
      int pos = i;
// line 2
      for (int j = 0; j < numberArray.length; j++)
// line 3
      {
        if (numberArray[j] < numberArray[pos])
// line 4
        {
          pos = j;
// line 5
        }
      }
      temp = numberArray[i];
      numberArray[i] = numberArray[pos];
      numberArray[pos] = temp;
    }
  }
```

This method should sort the numbers in the passed array into ascending order. But, it does not work. Which of the following changes would fix it?

Answer a:
Line 5 should be:

```
j = pos;
```

Answer b:
Line 4 should be:

```
if (numberArray[j] > numberArray[pos])
```

Answer c:
Line 2 should be:

```
int pos = 0;
```

Answer d:
Line 3 should be:

```
for (int j = i + 1; j < numberArray.length; j++)
```

Answer e:
Line 1 should be:

```
for (int i = 0; i < numberArray.length - 2; i++)
```

Question 3 out of 40 questions

Question: Consider the following method and code:

```
public int m1(int[] a){
   a[1]--;
   return (a[1] * 2);
}
// assume this code is in another method
int[] b = {2, 3, 4};
b[0] += m1(b);
for(int x: b)
   System.out.print(x+" ");
```

What is the run output of the code?

Answer a:
6 3 4

Answer b:
6 2 4

Answer c:
runtime error

Answer d:
x x x

Answer e:
6 4 4

Question 4 out of 40 questions

Consider the following declarations:

```
int valueOne = 3;
int valueTwo = 3;
```

Which of the following will compile and evaluate to true?

Answer a:
valueOne.equals(valueTwo)

Answer b:
valueOne == valueTwo

Answer c:
valueOne.equals((Integer) valueTwo)

Answer d:
valueOne.compareTwo((Integer) valueTwo) == 0

Answer e:
valueOne.compareTo(valueTwo) == 0

Question 5 out of 40 questions

```
consider the following code segment:

char test[] = {'t', 'e', 's', 't'};
 String str = new String(test);

which of the following would not compile
```

```
Answer a:
```

```
s = s + s;
```

```
Answer b:
```

```
int i = s[0];
```

Answer c:

```
s = 2 * s;
```

Answer d:

```
s = s % 2;
```

Answer e:

```
None of the above.
```

Question 6 out of 40 questions

What all gets printed when the following method is run?

```
   public static void test() {
      for(int i = 0; i < 2; i++) {
         for(int j = 2; j>= 0; j--) {
            if(i != j) {
              System.out.println("i=" + i + " j="+j);
            }
         }
      }
   }
```

Answer a:

```
i=0 j=1
i=0 j=2
i=1 j=0
i=1 j=2
i=2 j=0
i=2 j=1
```

Answer b:

```
i=0 j=1
i=0 j=2
i=1 j=0
i=1 j=2
```

Answer c:

```
i=0 j=2
i=0 j=1
i=0 j=0
i=1 j=2
i=1 j=1
i=1 j=0
```

Answer d:

```
i=0 j=2
i=0 j=1
i=1 j=2
i=1 j=0
```

Answer e:

```
i=0 j=2
i=0 j=1
i=1 j=2
i=1 j=0
i=2 j=1
i=2 j=0
```

Question 7 out of 40 questions

Array unsortedArr contains an unsorted list of integers. Array sortedArr contains a sorted list of integers. Which of the following operations is more efficient for sortedArr then unsortedArr? Assume the most efficient algorithms are used.

```
I   Inserting a new element
II  Searching for a given element
III Computing the mean of the elements

(a) I only
(b) II only
(c) III only
(d) I and II only
(e) I, II and III
```

Answer a:

(d)

Answer b:

(c)

Answer c:

(e)

Answer d:

(b)

Answer e:

(a)

Question 8 out of 40 questions

What will be printed out at the end of this code snippet?

```
public abstract class Fruit
{
   public void eat()
   {
      System.out.println("Eating fruit");
   }
}

public class Banana extends Fruit
{
   public void eat()
```

```
   {
      System.out.println("Eating banana");
   }
}

public class Mango extends Fruit
{
   public void eat()
   {
      super.eat();
      System.out.println("Eating mango");
   }
}

public static void main (String[] args)
{
   Fruit f = new Mango();
   f.eat();
}
```

Answer a:

```
Eating fruit
Eating mango
```

Answer b:

```
Eating fruit
```

Answer c:

```
Eating banana
```

Answer d:

```
Eating mango
```

Answer e:
Compiler error

Question 9 out of 40 questions

Which of the following statements about abstract classes and interfaces is TRUE?

Answer a:
An abstract class cannot extend another abstract class

Answer b:
You can't declare variables with the type of an abstract class.

Answer c:
All subclasses of a class that implements an interface do not automatically implement the interface.

Answer d:
An abstract class cannot implement an interface

Answer e:
If an abstract class has no implemented constructors or methods, it is better to make it an interface.

Question 10 out of 40 questions

Consider the following method.

```
// precondition: numArray contains no duplicates and the
// elements in numArray are in ascending sorted order and
// 0 <= low <= numArray.length and low - 1 <= high <
numArray.length
public static int mystery(int[] numArray, int low, int high, int
value)
{
   if (low > high)
      return low;

   int mid = (low + high) / 2;

   if (numArray[mid] == value)
      return mid;
   else if (numArray[mid] < value)
      return mystery(numArray, mid + 1, high, value);
   else
      return mystery(numArray, low, mid - 1, value);
}
```

How many calls to mystery (including the initial call) are made as a result of the call `mystery(numArray, 0, numArray.length - 1, 32);` if numArray is declared as follows?

```
int[] numArray = {2, 10, 23, 31, 35, 48, 69, 98};
```

Answer a:
4

Answer b:
3

Answer c:
8

Answer d:
2

Answer e:
1

Question 11 out of 40 questions

Given an array, which of the following condition must be true in order to search for a value using binary search?

```
I. The values in the array must be integers.
II. The values in the array must be in sorted order.
III. The array must not contain duplicate values.
```

Answer a:
I, II and III

Answer b:
I and II

Answer c:
II only

Answer d:
II and III

Answer e:
I only

Question 12 out of 40 questions

What is the output of the following code when compiled and run?

```
public class Divisor {
  public static void main(String[] args) {
    int num = 0;
    while(num <= 14) {
      if(num % 3 == 1) {
        System.out.print("1 ");
      }
      else if (num % 3 == 2) {
        System.out.print("2 ");
      }
      else {System.out.print("0 ");
    }
    num += 2;
  }
}
}
```

Answer a:
0 2 1 0 2 1 0

Answer b:
0 2 1 0 2 1 0 2 1

Answer c:
0 1 2 0 1 2 0 1

Answer d:
2 1 0 2 1 0 2 1

Answer e:
0 2 1 0 2 1 0 2

Question 13 out of 40 questions

Which one of the following statements about method overloading and overriding is true?

Answer a:
Overriding allows for polymorphism which means that the actual method that gets called at runtime depends on the type of the object at runtime.

Answer b:
In overloading, two methods with the same name can have the same sequence of parameters as long as the parameter names are different.

Answer c:
Overloading two methods means that one of the method names has to be different than the other.

Answer d:
Overloading and overriding of methods are interchangeable terms in the object-oriented paradigm.

Answer e:
Overriding means that two methods in the same class have the same name, but different parameter lists.

Question 14 out of 40 questions

Assume that variable b is an array of k integers and that the following is true:
`b[0] != b[k] for all k such that 1 <= k`
Which of the following statements is a valid conclusion?

Answer a:
Array b is not sorted

Answer b:
The value in b[0] does not occur anywhere else in the array

Answer c:
The value in b[0] is the smallest value in the array

Answer d:
Array b is sorted

Answer e:
Array b contains no duplicates

Question 15 out of 40 questions

Which will cause the **shortest** execution of a **binary search** looking for a value in an array of integers sorted in ascending order? The array has an odd number of integers.

Answer a:
The value is the last in the array.

Answer b:
The value is in the middle of the array.

Answer c:
The value is not in the array.

Answer d:
The value is the first in the array.

Answer e:
The value is the third element in the array.

Question 16 out of 40 questions

What is the output of the following code when compiled and run?

```
  public static void test()
  {
    int num = 0;
    while(num <= 14)
    {
      if(num % 3 == 1)
      {
        System.out.print("1 ");
      }
      else if (num % 3 == 2)
      {
        System.out.print("2 ");
      }
      else
      {
        System.out.print("0 ");
      }

      num += 2;
    }
}
```

Answer a:
0 2 1 0 2 1 0 2

Answer b:
2 1 0 2 1 0 2 1

Answer c:
0 1 2 0 1 2 0 1

Answer d:
0 2 1 0 2 1 0

Answer e:
0 2 1 0 2 1 0 2 1

Question 17 out of 40 questions

Given the following incomplete class declaration:

```
public class TimeRecord
{
  private int hours;
  private int minutes; // 0<=minutes<60

  public TimeRecord(int h, int m)
  {
    hours = h;
    minutes = m;
  }

  // postcondition: returns the
  // number of hours
  public int getHours()
  { /* implementation not shown */ }

  // postcondition: returns the number
  // of minutes; 0 <= minutes < 60
  public int getMinutes()
  { /* implementation not shown */ }

  // precondition: h >= 0; m >= 0
  // postcondition: adds h hours and
  // m minutes to this TimeRecord
  public void advance(int h, int m)
  {
    hours = hours + h;
    minutes = minutes + m;
    /* missing code */
  }

  // ... other methods not shown
}
```

Which of the following can be used to replace the missing code in the advance method so that it will correctly update the time?

Answer a:

```
minutes = minutes % 60;
```

Answer b:

```
hours = hours + minutes / 60;
minutes = minutes % 60;
```

Answer c:

```
hours = hours + minutes / 60;
```

Answer d:

```
minutes = minutes + hours % 60;
```

Answer e:

```
hours = hours + minutes % 60;
minutes = minutes / 60;
```

Question 18 out of 40 questions

Consider the following classes.

```
public abstract class Animal
{
   public void run()
   {
      System.out.println("Running");
   }
}
public class Cheetah extends Animal
{
   public void run()
   {
      super.run();
      System.out.println("Running really fast");
   }
}
```

What will be printed out when the below code segment is run?

```
Animal c = new Cheetah();
c.run();
```

Answer a:
Nothing will be printed, because of a compiler error.

Answer b:

```
Running really fast
```

Answer c:

```
Running
Running really fast
```

Answer d:

```
Running
```

Answer e:

```
Running really fast
Running
```

Question 19 out of 40 questions

Consider the following code segment:

```
for (int k = 0; k < 20; k = k + 2)
{
   if (k % 3 == 1)
      System.out.print(k + " ");
}
```

What is printed as a result of executing the code segment?

Answer a:
0 6 12 18

Answer b:
4 10 16

Answer c:
1 4 7 10 13 16 19

Answer d:
0 2 4 6 8 10 12 14 16 18

Answer e:
4 16

Question 20 out of 40 questions

```
public class Student {
  public String getFood() {
     return "Pizza";
  }
  public String getInfo()  {
     return this.getFood();
  }
}

public class GradStudent extends Student {
  public String getFood() {
     return "Taco";
  }
}
```

What is the output from this:

```
Student s1 = new GradStudent();
s1.getInfo();
```

Answer a:
Won't compile since you are creating a GradStudent, not a Student

Answer b:
Taco

Answer c:
Won't compile since GradStudent doesn?t have a getInfo method

Answer d:
Won't compile since you use this.getFood()

Answer e:
Pizza

Question 21 out of 40 questions

The following classes are defined:

```
public class Car
{
     private int fuel;

     public Car() { fuel = 0; }
     public Car(int g) { fuel = g; }

     public void addFuel() { fuel++; }
     public void display() { System.out.print(fuel + " "); }
}

public class RaceCar extends Car
{
     public RaceCar(int g) { super(2*g); }
}
```

What is the result when the following code is compiled and run?

```
Car car = new Car(5);
Car fastCar = new RaceCar(5);
car.display()
car.addFuel();
car.display();
fastCar.display();
fastCar.addFuel();
fastCar.display();
```

Answer a:
You get a runtime error ClassCastException, when fastCar.addFuel() is executed.

Answer b:
The code won't compile because there aren't addFuel and display methods in the RaceCar class.

Answer c:
The code compiles and runs with no errors, the output is 5 6 5 6

Answer d:
The code compiles and runs with no errors, the output is: 5 6 10 11

Answer e:
The code compiles and runs with no errors, the output is 10 11 10 11

Question 22 out of 40 questions

Given the following declaration of a field in a class:
```
public static final String GREETING = "Hi";
```
Which of these statements is **not** true?

Answer a:
Each object of this class has a copy of GREETING

Answer b:
Each object of this class can access GREETING

Answer c:
GREETING.length() == 2

Answer d:
The value of GREETING can not be changed in any methods

Answer e:
GREETING.toUpperCase().equals("HI")

Question 23 out of 40 questions

At a certain high school students receive letter grades based on the following scale.

```
     Numeric Score                Letter Grade
     93 or Above                        A

     From 84 to 92 inclusive            B

     From 75 to 83 inclusive            C

     Below 75                           F
```

```
Which of the following code segments will assign the correct
string to grade for a given integer score?

I.   if (score >= 93)
        grade = "A";
     if (score >= 84 && score <= 92)
        grade = "B";
     if (score >= 75 && score <= 83)
        grade = "C";
     if (score < 75)
```

```
        grade = "F";

II.  if (score >= 93)
        grade = "A";
     if (score >= 84)
        grade = "B";
     if (score >= 75)
        grade = "C";
     if (score < 75)
        grade = "F";

III. if (score >= 93)
        grade = "A";
     else if (score >= 84)
        grade = "B";
     else if (score >= 75)
        grade = "C";
     else
        grade = "F";
```

Answer a:
I and III only

Answer b:
I, II, and III

Answer c:
I and II only

Answer d:
II only

Answer e:
III only

Question 24 out of 40 questions

Consider the following code segment. The code is intended to read nonnegative numbers and compute their sum until a negative number is read. However, it does not work as intended. (Assume that readInt works correctly to read the next number from the input stream.)

```
int i = 1;
int sum = 0;
```

```
while (i >= 0)
{
   System.out.println("enter a number (enter 0 to quit): ");
   i = readInt(); // read int from user
   sum = sum + i;
}
System.out.println("sum: " + sum);
```

Which of the following best describes the error in the program?

Answer a:
The variable i is incorrectly initalized.

Answer b:
If the user enters a zero the loop will stop.

Answer c:
The while loop never executes.

Answer d:
The while is always true.

Answer e:
The negative number that signals the end of the input is included in the sum.

Question 25 out of 40 questions

Consider the following declaration for a class that will be used to represent points in the xy-coordinate plane:

```
public class Point
{
  private int myX; // coordinates
  private int myY;

  public Point( )
  {
    myX = 0;
    myY = 0;
  }

  public Point(int a, int b)
  {
    myX = a;
    myY = b;
  }
```

```
// ... other methods not shown

}
```

The following incomplete class declaration is intended to extend the above class so that two-dimensional points can be named.

```
public class NamedPoint extends Point
{
  private String myName;
  // constructors go here
  // ... other methods not shown
}
```

Consider the following proposed constructors for this class:

```
I.   public NamedPoint()
     {
       myName = "";
     }
II.  public NamedPoint(int d1, int d2, String name)
     {
       myX = d1;
       myY = d2;
       myName = name;
     }
III. public NamedPoint(int d1, int d2, String name)
     {
       super(d1, d2);
       myName = name;
     }
```

Which of these constructors would be legal for the NamedPoint class?

Answer a:
I only

Answer b:
II only

Answer c:
III only

Answer d:
I and II

Answer e:
I and III

Question 26 out of 40 questions

Consider the following segment of code:

```
public static void modulusDivision(int n)
{
   if (n % 10 == 1)
   {
      System.out.println("End");
   }
   else
   {
      System.out.println("Recursing");
      modulusDivision(n/10);
   }
}
```

What will printed as a result of the call `modulusDivision(1001);`?

Answer a:

```
Recursing
End
```

Answer b:

```
Recursing
Recursing
End
```

Answer c:

```
Recursing
Recursing
Recursing
```

Answer d:

```
Recursing
Recursing
Recursing
Recursing
End
```

Answer e:

End

Question 27 out of 40 questions

Consider the following code segment:

```
int [][] mat = new int [3][4];
for (int row = 0; row < mat.length; row++)
{
  for (int col = 0; col < mat[0].length; col++)
  {
    if (row < col)
      mat[row][col] = 1;
    else if (row == col)
      mat[row][col] = 2;
    else
      mat[row][col] = 3;
  }
}
```

What are the contents of mat after the code segment has been executed?

Answer a:

```
{{2 1 1 1},
 {3 2 1 1},
 {3 3 2 1}}
```

Answer b:

```
{{2 3 3 3},
 {1 2 3 3},
 {1 1 2 3}}
```

Answer c:

```
{{2 3 3},
 {1 2 3},
 {1 1 2},
 {1 1 1}}
```

Answer d:

```
{{2 1 1},
 {3 2 1},
 {3 3 2},
 {3 3 3}}
```

Answer e:

```
{{1 1 1 1},
 {2 2 2 2},
 {3 3 3 3}}
```

Question 28 out of 40 questions

Consider the following code segment
```
String s1 = "xyz";
String s2 = s1;
String s3 = s2;
```
After this code is executed, which of the following statements will evaluate to TRUE?
```
I. s1.equals(s3)
II. s1 == s2
III. s1 == s3
```

Answer a:
III only

Answer b:
I,II, and III

Answer c:
II only

Answer d:
II and III only

Answer e:
I only

Question 29 out of 40 questions

Assume that temp is an int variable initialized to be greater than zero and that a is an array of ints. Consider the following code segment:
```
   for ( int k = 0; k < a.length; k++ )
   {
      while ( a[ k ] < temp )
      {
         a[ k ] *= 2;
      }
   }
```

What of the following will cause an infinite loop?

Answer a:
Whenever a includes a value equal to temp.

Answer b:
Whenever a includes a value that is less than or equal to zero.

Answer c:
The values don't matter this will always cause an infinite loop.

Answer d:
When all values in a are larger than temp.

Answer e:
Whenever a has values larger then temp.

Question 30 out of 40 questions

A two-dimensional array: imagePixels, holds the brightness values for the pixels in an image. The brightness can range from 0 to 255.

```
public int findMax(int[][] imagePixels)
{
     int r, c;
     int i, iMax = 0;

     for(r = 0; r < imagePixels.length; r++) {
         for(c = 0; c < imagePixels[0].length; c++) {
             i = image[r][c];
             if(i > iMax)
                iMax = i;
         }
      }
      return iMax;
}
```

What does this method compute?

Answer a:
The most frequent brightness value in imagePixels

Answer b:
The column with the greatest brightness sum

Answer c:
The row with the greatest brightness sum

Answer d:
The maximum brightness value for all pixels in imagePixels

Answer e:
The sum of the total brightness of imagePixels

Question 31 out of 40 questions

What does the following method return when called with f(5)?

```
public static int f(int n)
  {
    if (n == 0)
      return 0;
    else if (n == 1)
      return 1;
    else return f(n-1) + f(n-2);
  }
```

Answer a:
5

Answer b:
There is no result because of infinite recursion.

Answer c:
3

Answer d:
0

Answer e:
8

Question 32 out of 40 questions

The following method attempts to perform an insertion sort:

```
      public void sort()
0:    {
```

```
1:       for (int i = 1; i < a.length; i++)
2:       {
3:          int next = a[i];

4:          // Move all larger elements to the right
5:          int j = i;
6:          while (j > 0 && a[j - 1] > next)
7:          {
8:             a[j-1] = a[j];
9:             j--;
10:          }

11:          // Insert the element
12:          a[j] = next;
13:       }
14:    }
```

However, it does not work properly. Which is the line that contains an error?

Answer a:
In line 8 it should be `a[j] = a[j-1];`

Answer b:
In line 5, should be int j = i + 1;

Answer c:
In line 1 the code `i < a.length` should be `i < a.length ? 1`.

Answer d:
In line 1 the code should be `for (int i = 0; i < a.length; i++)`

Answer e:
In line 6 the code `j > 0` should be `j < i`.

Question 33 out of 40 questions

Given the following incomplete class declaration:

```
public class TimeRecord
{
  private int hours;
  private int minutes; // 0<=minutes<60

  public TimeRecord(int h, int m)
```

```
  {
    hours = h;
    minutes = m;
  }

  // postcondition: returns the
  // number of hours
  public int getHours()
  { /* implementation not shown */ }

  // postcondition: returns the number
  // of minutes; 0 <= minutes < 60
  public int getMinutes()
  { /* implementation not shown */ }

  // precondition: h >= 0; m >= 0
  // postcondition: adds h hours and
  // m minutes to this TimeRecord
  public void advance(int h, int m)
  {
    hours = hours + h;
    minutes = minutes + m;
    /* missing code */
  }

  // ... other methods not shown
}
```

Consider the following declaration that appears in a client program:

```
TimeRecord[] timeCards = new TimeRecord[100];
```

Assume that timeCards has been initialized with TimeRecord objects. Consider the following code segment that is intended to compute the total of all the times stored in timeCards.

```
TimeRecord total = new TimeRecord(0,0);
for (int k = 0; k < timeCards.length; k++)
{
/* missing expression */ ;
}
```

Which of the following can be used to replace /* missing expression */ so that the code segment will work as intended?

Answer a:

```
total += timeCards[k].advance()
```

Answer b:

```
total.advance(timeCards[k].hours,
                      timeCards[k].minutes)
```

Answer c:

```
total.advance(timeCards[k].getHours(),
                       timeCards[k].getMinutes())
```

Answer d:

```
timeCards[k].advance()
```

Answer e:

```
timeCards[k].advance(timeCards[k].getHours(),
                                     timeCards[k].getMinutes())
```

Question 34 out of 40 questions

Assume that a two-dimensional array matrix is defined as follows.
`int[][] matrix = new int[4][4];`
Consider the following code segment.

```
int sum = 0;
int col = matrix[0].length - 2;
for (int row = 0; row < 4; row++)
{
 sum = sum + matrix[row][col];
}
```

Assume that matrix has the following values before the code segment above is executed. Note that matrix[0][3] is 2.

	0	**1**	**2**	**3**
0	1	1	2	2
1	1	2	2	4
2	1	2	3	4
3	1	4	1	2

What is the resulting value of sum?

Answer a:
4

Answer b:
9

Answer c:
10

Answer d:
8

Answer e:
12

Question 35 out of 40 questions

Which of the following method signatures will satisfy the Comparable interface implemented in a class called CurrClass that says it implements Comparable<CurrClass> in the class definition?

```
I.   public boolean compareTo(Object o)
II.  public int compareTo(Object o)
III. public int compareTo(CurrClass c)
IV.  public boolean compareTo(CurrClass c)
```

Answer a:
I only

Answer b:
IV only

Answer c:
III only

Answer d:
II only

Answer e:
II and III

Question 36 out of 40 questions

```
public class Student {
  private String getFood() {
     return "Pizza";
  }
  public String getInfo()  {
     return this.getFood();
```

```
  }
}

public class GradStudent extends Student {
  private String getFood() {
     return "Taco";
  }
  public void teach(){
     System.out.println("Education!");
  }
}
```

What is the output from this:

```
Student s1 = new GradStudent();
s1.getInfo();
```

Answer a:
Pizza

Answer b:
Won't compile since you use this.getFood()

Answer c:
Won't compile since you are creating a GradStudent, not a Student

Answer d:
Taco

Answer e:
Won't compile since GradStudent doesn't have a getInfo method.

Question 37 out of 40 questions

The relationship between Dog and DogOwner is what object-oriented concept?

```
public class Dog
{
   private String name;

   public void setName(String n)
   {
      name = n;
   }

   public String getName()
```

```
   {
      return name;
   }
}

public class DogOwner
{
  private String name;
  private Dog[] dogs;
}
```

Answer a:
Overloading

Answer b:
Polymorphism

Answer c:
Association

Answer d:
Interface

Answer e:
Inheritance

Question 38 out of 40 questions

Which of the following reasons for using an inheritance heirarchy are valid?

```
I.   Methods from a superclass can be used in a subclass without
     rewriting or copying code.
II.  Objects from subclasses can be passed as arguments to a
method
     designed for the superclass
III. Objects from subclasses can be stored in the same array
IV.  All of the above
V.   None of the above
```

Answer a:
I and III

Answer b:
IV

Answer c:
I and II

Answer d:
I only

Answer e:
V.

Question 39 out of 40 questions

The following code fragment deos a sequential search to determine whether a given integer, vlaue, is stored in an array a[0]...a[n-1] int i = 0; while(/*boolean expression*/) { i++; } if (i == n) return -1; else return i; Which of the following should replace (/* boolean expression */)? (a) value != a[i] (b) i < n && value == a[i] (c) va;ue != a[i] && i < n (d) i < n && value != a[i] (e) i < n || value != a[i]

Answer a:
(b)

Answer b:
(a)

Answer c:
(c)

Answer d:
(d)i < n && value != a[i]

Answer e:
(e)

Question 40 out of 40 questions

Consider the following declarations.

```
public class Test1
{
   public void method1(Test2 v1, Test3 v2)
   {
```

```
   }
}

public class Test2 extends Test1
{
}

public class Test3 extends Test2
{
}
```

The following initializations appear in a different class.

```
Test1 t1 = new Test1();
Test2 t2 = new Test2();
Test3 t3 = new Test3();
```

Which of the following is a correct call to method1?

- Answer a:
t3.method1(t3,t3);

- Answer b:
t2.method1(t2,t2);

- Answer c:
t3.method1(t1,t1);

- Answer d:
t1.method1(t1,t1);

- Answer e:
t2.method1(t3,t2);