CS121 Quiz 3

December 1, 2005

Name: _____________________________

1. What value will be printed by the following method m1()’s execution? [20 points]

   ```java
   public void m1() {
       int[] a = {1, 2, 3, 4, 5, 6, 7, 8, 9};
       int sum = 0;
       for (int i = 0; i < a.length; i = i + 2)
           sum += a[i];
       System.out.println(sum);
   }
   ```

2. One program needs to call a method to exchange the values of the first two cells of int array a[]. Solution 1 uses method call “swap1(a[0], a[1]);” and method swap1() is implemented as

   ```java
   void swap1(int x, int y) {
       int temp = x;
       x = y;
       y = temp;
   }
   ```

   Solution 2 uses method call “swap2(a, 0, 1);” and method swap2() is implemented as

   ```java
   void swap2(int[] v, int i, int j) {
       int temp = v[i];
       v[i] = v[j];
       v[j] = temp;
   }
   ```

   Only one solution is correct. Which is the correct solution? Why is the other wrong? [30 points]

3. Write a concise and well-formatted Java program that [50 points]
   a. Declares a class Rectangle that
      i. contains private int attributes length and width, both of type double;
      ii. contains a default constructor that sets both length and width to 0;
      iii. contains an overloaded constructor that initializes length and width with the values of its parameters;
iv. contains accessors and mutators for length and width;
v. overloads the toString() method to print the values of a Rectangle object in readable format.

b. Declares a class TestRectangle with the method main() that generates two Rectangle objects, with different constructors, and print out the values of the objects.