

CS121 Quiz 3

December 1, 2005

Name: _____

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

```
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

```
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

```
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]
- Declares a class `Rectangle` that
 - contains private `int` attributes `length` and `width`, both of type `double`;
 - contains a default constructor that sets both `length` and `width` to 0;
 - 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.