This quiz is to be taken by yourself with closed books, closed notes, no electronic devices.

What is the output produced by the following program? (Hint: draw stack frames)

```java
public class Swap {
    private int a;

    public Swap(int a) {
        this.a = a;
    }

    public void swap(int a, int b) {
        int tmp;
        tmp = a;
        a = b;
        b = tmp;
    }

    public void swap(Swap ref) {
        int tmp;
        tmp = this.a;
        this.a = ref.a;
        ref.a = tmp;
    }

    public static void swap(Swap ref1, Swap ref2) {
        Swap tmp;
        tmp = ref1;
        ref1 = ref2;
        ref2 = tmp;
    }

    public static void main(String[] args) {
        int a = 11; Swap ref1;
        int b = 22; Swap ref2;
        ref1 = new Swap(9);
        ref2 = new Swap(3);
        Swap.swap(ref1, ref2);
        System.out.println(ref1.a);
        System.out.println(ref2.a);

        ref1 = new Swap(9);
        ref2 = new Swap(3);
        ref1.swap(a, b);
        System.out.println(a);
        System.out.println(b);

        ref1 = new Swap(9);
        ref2 = new Swap(3);
        ref1.swap(ref2);
        System.out.println(ref1.a);
        System.out.println(ref2.a);
    }
}
```

The different swap() method definitions have the same name but differ in their formal parameters. This is an example of method _________________________
What is the initial value of each array element in the following arrays?

- Boolean[] b = new Boolean[3];
- double[] d = new double[4];
- int[] a = new int[5];
- boolean[] c = new boolean[7];

Given the following array declaration:

int[] a = { 1, 1, 2, 3, 5, 8, ... }; // You do not know how many values are in the initializer list

Fill in the blanks to print out each element:

for ( int i = _________; i < _________; _________ )
    System.out.println( _________ );

Now do the same using a foreach (enhanced for) loop:

___________ ( int i ___________ ___________ )
    System.out.println( _________ );

Now do the same using a while loop (any loop variable change do on a separate line):

___________
while ( _________________ )
{
    _________________
    _________________
}

Now do the same using a do-while loop (you can assume there is at least one element in the array):

___________
    _________
{
    _________________
    _________________
}
    _________________

In general, if you override the equals() method you should also override the _________________ method.

Write the code to check for exact type equivalence between two objects referenced by variables o1 and o2:

if ( _________________ )
    System.out.println( "o1 and o2 reference the exact same type of object" );
else
    System.out.println( "o1 and o2 reference different types of objects" );

Which is the only Java data structure than can hold primitive data types (like int) while all other standard Java data structures can only hold an object type? _________________

What is Rick's favorite Java operator? _________________