

1. abcd abc false
abcd abcd true

Strings are immutable therefore `s1 += "d"`; will produce a new `s1` with a value of `abcd` and `s2` is `abc`. Therefore `s1==s2` return false since they are different objects. String builders are mutable and `sb1`, `sb2` point to the same object. Modifying `sb1` will also modify `sb2`. `sb1==sb2` will return true since the reference variables point to the same object.

2. String

This is an example of overloading where the best matching method is called. If there is no obvious best matching method found then the most specific method will be called in this case the `FlipRobo` method with the string argument since it is more Specific than the `FlipRobo` method with the object argument.

3. a
b
c

Here constructor chaining will take place the call to `new Third()` will call `Third`'s constructor whose first statement will be a call to the second's constructor whose first statement will be a call to the first's constructor whose first statement will be a call to the object class constructor.

4. 20

`num` in `calc` function is a local variable which gets assigned a value of 2 and the field `num` referred to as `this.num` is assigned a value of 20 inside the `calc` function which gets printed in the `printNum` function.

5. 4

`s2` is appended to `s1` and then the index of the first character of `s2` is returned.

6. Writing book

This is an example of method hiding where the static method that will be called will depend on the type of the reference variable and not on the type of object. This will be decided at compile time.

7. Not equal

The `new` keyword will create 2 new instances. `==` simply compares whether the references point to the same object or not. In this case `s1` and `s2` point to different String objects.

8. First statement of try block

15
finally block
Main method

Since there is no exception the entire try block will be executed followed by finally block and then the last `println` method.

9. constructor called constructor called

The static member a will be created as soon as the byte code of the class is loaded. This will result in a call to a constructor. The constructor will be called again once JVM starts executing the main method.

10. Static Block 1

Static Block 2

Value of num = 100

Value of mystr = Constructor

The first static block will be called as soon as the byte code is loaded followed by the second static block. We can access the static members using an object. The constructor simply changes the values of both the static variables.