

1 Bear

```
public class Bear {
    public static int num = 0;
    public int myNum;
    public String name;

    public Bear (int n, String str) {
        num += 1;
        myNum = n;
        name = str;
    }

    public void printNum() {
        System.out.println(myNum);
    }

    public void printInfo(String str) {
        System.out.println("I like " + str);
    }

    public void printInfo(int d) {
        System.out.println("Number: " + d);
    }
}
```

Take a look at the class and answer the questions below. Suppose we instantiate the following two objects:

```
bear1 = new Bear(4, "Oski");
bear2 = new Bear(2, "Clark");
```

What is the output after executing the following snippet of code:

```
System.out.println(bear2.num);
bear2.num -= 1;
System.out.println(bear1.num);
bear2.myNum -= 1;
System.out.println(bear1.myNum);
bear1.printInfo(2);
bear1.printInfo("apples");
```

2 Box and Pointer Diagrams

Answer the following questions about the Avatar class.

```
public class Avatar {
    public static String electricity; public String fluid;

    public Avatar(String str1, String str2) {
        Avatar.electricity = str1;
        this.fluid = str2;
    }

    public static void main(String[] args) {
        Avatar fool = new Avatar("one ", "two");
        Avatar foo2 = new Avatar("three ", "four");
        /* a */
        fool.electricity = "I declare ";
        fool.fluid = "a thumb war";
        /* b */
        foo2 = fool;
        /* c */
    }
}
```

Draw the box-and-pointer diagrams of the states of the program during the lines with the comments a, b, and c in the main method before exiting.

3 Java Practice

1. Write a function that sums up all the digits in an integer recursively. For example, `sumDigits(31415)` should return $3 + 1 + 4 + 1 + 5 = 14$.

```
public static int sumDigits (int x) {
    if ( _____ ) {
        _____;
    }
    return _____ + sumDigits( _____ );
}
```

2. Extra - Write a function that sums up all the digits in an integer iteratively.

```
public static int sumDigits (int x) {

}

}
```

4 Do you Git it?

Recall the Git commands `init`, `add`, `commit`, `status`, `log`, `show`, `clone`, `pull`, and `push`. Circle the command which allows you to...

1. tell Git to start tracking a file:

`init` `add` `commit` `status` `log` `show` `clone` `pull` `push`

2. save a snapshot of the files being tracked:

`init` `add` `commit` `status` `log` `show` `clone` `pull` `push`

3. see what files have changed since your last commit:

```
init add commit status log show clone pull push
```

4. see a list of previous commits:

```
init add commit status log show clone pull push
```

5. create a local copy of a remote repository:

```
init add commit status log show clone pull push
```

6. send your locally tracked files to a remote repository:

```
init add commit status log show clone pull push
```