

Week-12

```
import java.util.ArrayList;

import java.util.List;

class ClassInfo {

    private String className;

    private List<String> methodNames;

    private List<String> variableNames;

    private int inheritanceDepth;

    private int numOfChildren;

    public ClassInfo(String className) {

        this.className = className;

        this.methodNames = new ArrayList<>();

        this.variableNames = new ArrayList<>();

    }

    public void addMethod(String methodName) {

        methodNames.add(methodName);

    }

    public void addVariable(String variableName) {

        variableNames.add(variableName);

    }

    public void setInheritanceDepth(int depth) {

        this.inheritanceDepth = depth;

    }

}
```

```

    public void setNumOfChildren(int numOfChildren) {
        this.numOfChildren = numOfChildren;
    }

    public String getClassName() {
        return className;
    }

    public int getMethodCount() {
        return methodNames.size();
    }

    public int getVariableCount() {
        return variableNames.size();
    }

    public int getInheritanceDepth() {
        return inheritanceDepth;
    }

    public int getNumOfChildren() {
        return numOfChildren;
    }
}

```

```

class MetricsCalculator {
    public static void main(String[] args) {
        // Creating sample classes
        ClassInfo classA = new ClassInfo("ClassA");
        classA.addMethod("method1");
    }
}

```

```
classA.addMethod("method2");  
classA.addVariable("variable1");  
classA.addVariable("variable2");  
classA.setInheritanceDepth(1);  
classA.setNumOfChildren(2);
```

```
ClassInfo classB = new ClassInfo("ClassB");  
classB.addMethod("method1");  
classB.addMethod("method2");  
classB.addVariable("variable1");  
classB.addVariable("variable2");  
classB.setInheritanceDepth(2);  
classB.setNumOfChildren(0);
```

```
// Calculating metrics for classA
```

```
System.out.println("Metrics for " + classA.getClassName() + " :");  
  
System.out.println("Number of methods: " +  
classA.getMethodCount());  
  
System.out.println("Number of variables: " +  
classA.getVariableCount());  
  
System.out.println("Inheritance depth: " +  
classA.getInheritanceDepth());  
  
System.out.println("Number of children: " +  
classA.getNumOfChildren());
```

```
// Calculating metrics for classB
```

```
System.out.println("\nMetrics for " + classB.getClassName() + " :");  
  
System.out.println("Number of methods: " +  
classB.getMethodCount());  
  
System.out.println("Number of variables: " +  
classB.getVariableCount());
```

```
        System.out.println("Inheritance depth: " +  
classB.getInheritanceDepth());
```

```
        System.out.println("Number of children: " +  
classB.getNumOfChildren());
```

```
    }
```

```
}
```