

```

1  import java.util.Arrays;
2
3  /**
4   * Represents a module in a given term and year, contains the student records of the
5   * students on the module and an average mark for all students on the module.
6   */
7
8  public class Module {
9
10     private int year;
11
12     private byte term;
13
14     private ModuleDescriptor module;
15
16     private StudentRecord[] records;
17
18     private double finalAverageGrade;
19
20     /**
21      * Constructor for Module class
22      *
23      * @param year    that module is in
24      * @param term    that module is in
25      * @param module  Module Descriptor for the module
26      */
27
28     public Module(int year, byte term, ModuleDescriptor module) {
29         this.year = year;
30         this.term = term;
31         this.module = module;
32
33         StudentRecord[] newArray = {};
34         this.records = newArray;
35     }
36
37     /**
38      * Gets final average grade of all students on the module.
39      *
40      * @return finalAverageGrade
41      */
42     public double getFinalAverageGrade() {
43         // Calculate final average grade
44         double total = 0.0;
45         int count = 0;
46         for (StudentRecord record : records) {
47             total += record.getFinalScore();
48             count++;
49         }
50         this.finalAverageGrade = total / count;
51         return finalAverageGrade;
52     }
53
54     /**
55      * Adds a student record to the module.
56      *
57      * @param newRecord Studentrecord to add to records array.
58      */
59     public void addRecord(StudentRecord newRecord) {
60         StudentRecord[] newRecords = Arrays.copyOf(this.records, this.records.length +
61             1);
62         newRecords[newRecords.length - 1] = newRecord;
63         this.records = newRecords;
64     }
65
66     public int getYear() {
67         return year;
68     }

```

```
69     public byte getTerm() {
70         return term;
71     }
72
73     public String getModuleCode() {
74         String moduleCode = module.getModuleCode();
75         return moduleCode;
76     }
77 }
78
79
```