```java
1 package collection_HomeWork;
2
3 import java.util.ArrayList;
8
9 public class StudentTest {
10     public static void main(String[] args) {
11         int rank;
12         List<Student> list = new ArrayList<>();
13
14         list.add(new Student("2", "가나다", 85, 98, 64));
15         list.add(new Student("1", "홍길동", 87, 88, 97));
16         list.add(new Student("4", "이순신", 81, 72, 78));
17         list.add(new Student("3", "마바사", 80, 91, 72));
18         list.add(new Student("5", "안희건", 87, 88, 97));
19
20         // 등수 설정
21         for(Student student:list) {
22             rank =1;
23             for(Student otherStudent:list) {
24                 if(student.getTotal()<otherStudent.getTotal()) {
25                     rank++;
26                 }
27             }
28             student.setGrade(rank);
29         }
30         System.out.println("학번 정렬 전");
31         System.out.println("=================================================");
```

```java
32          for (Student student : list) {
33              System.out.println(student);
34          }
35          System.out.println();
36          System.out.println("학번 정렬 후 ");
37          System.out.println("=================================================");
38          Collections.sort(list);
39          for (Student student : list) {
40              System.out.println(student);
41          }
42          System.out.println();
43          System.out.println("총점 정렬 후 ");
44          System.out.println("=================================================");
45
46          list.sort(new Comparator<Student>() {
47
48              @Override
49              public int compare(Student o1, Student o2) {
50                  // TODO Auto-generated method stub
51                  int score1 = o1.getTotal();
52                  int score2 = o2.getTotal();
53                  if (score1 == score2) {
54                      return o1.compareTo(o2) * -1;
55                  }
56                  return Integer.compare(score1, score2);
57              }
58          });
```

```java
59
60            for (Student student : list) {
61                System.out.println(student);
62            }
63
64        }
65 }
66
67 class Student implements Comparable<Student> {
68
69     private String studentNo;
70     private String name;
71     private int korean;
72     private int english;
73     private int math;
74     private int total;
75     private int grade;
76
77     public Student(String studentNo, String name, int korean, int english, int math) {
78         super();
79         this.studentNo = studentNo;
80         this.name = name;
81         this.korean = korean;
82         this.english = english;
83         this.math = math;
84         this.total = korean + english + math;
85     }
```

```java
 86
 87    public String getStudentNo() {
 88        return studentNo;
 89    }
 90
 91    public void setStudentNo(String studentNo) {
 92        this.studentNo = studentNo;
 93    }
 94
 95    public String getName() {
 96        return name;
 97    }
 98
 99    public void setName(String name) {
100        this.name = name;
101    }
102
103    public int getKorean() {
104        return korean;
105    }
106
107    public void setKorean(int korean) {
108        this.korean = korean;
109    }
110
111    public int getEnglish() {
112        return english;
```

```java
113    }
114
115    public void setEnglish(int english) {
116        this.english = english;
117    }
118
119    public int getMath() {
120        return math;
121    }
122
123    public void setMath(int math) {
124        this.math = math;
125    }
126
127    public int getTotal() {
128        this.total = korean + english + math;
129        return total;
130    }
131
132    public void setGrade(int grade) {
133        this.grade = grade;
134    }
135
136    public int getGrade() {
137        return grade;
138    }
139
```

```java
140    @Override
141    public int compareTo(Student o) {
142        // TODO Auto-generated method stub
143        return this.studentNo.compareTo(o.getStudentNo());
144    }
145
146    @Override
147    public String toString() {
148        return "학번:" + studentNo + " 이름:" + name + " 총점:" + total + " 등수:" + grade;
149    }
150
151 }
152
```