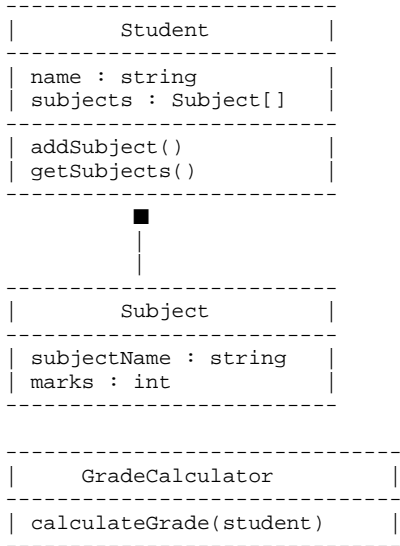# School Results Application
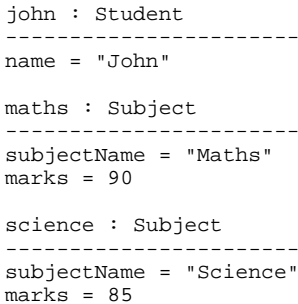
1. Class Diagram

This class diagram shows the structure of the School Results Application. It includes Student, Subject, and GradeCalculator classes. A student can have multiple subjects. The GradeCalculator is used to calculate the grade for a student.
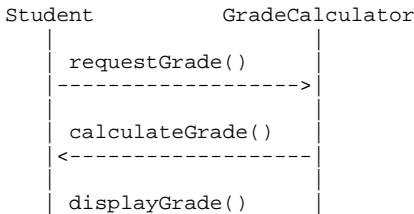
```
-------------------------
|         Student        |
-------------------------
| name : string          |
| subjects : Subject[]    |
-------------------------
| addSubject()           |
| getSubjects()          |
-------------------------
            ■
            |
            |
-------------------------
|         Subject         |
-------------------------
| subjectName : string    |
| marks : int             |
-------------------------


-------------------------------
|      GradeCalculator        |
-------------------------------
| calculateGrade(student)     |
-------------------------------
```

2. Object Diagram

This object diagram shows real objects created at runtime. Here, a student named John has two subjects: Maths and Science.

```
john : Student
----------------------
name = "John"

maths : Subject
----------------------
subjectName = "Maths"
marks = 90

science : Subject
----------------------
subjectName = "Science"
marks = 85
```

3. Sequence Diagram

This sequence diagram explains how the system works step by step when a student asks for their grade.

```
Student              GradeCalculator
   |                      |
   |  requestGrade()      |
   |--------------------->|
   |                      |
   |  calculateGrade()    |
   |<---------------------|
   |                      |
   |  displayGrade()      |
```

Conclusion: The class diagram shows the structure, the object diagram shows real data, and the sequence diagram shows how objects interact over time.