

# PYTHON ASSIGNMENT

Agricultural University of Athens

05/03/2020

## Data

You are given the following data list:

```
1
2 data_list = [{"John", "Physics", 5}, {"John", "Programming", 7},
3 [{"John", "Mathematics", 8}, {"Marie", "Physics", 6},
4 [{"Marie", "Programming", 10}, {"Marie", "Linear Algebra", 7},
5 [{"Helen", "Physics", 7}, {"Helen", "Programming", 6},
6 [{"Helen", "Linear Algebra", 8}, {"Helen", "Analysis", 10},
7 [{"Pantelis", "Programming", 10}, {"Pantelis", "Mathematics", 8},
8 [{"Pantelis", "Analysis", 6}, {"Pantelis", "Biology", 6},
9 [{"Michael", "Analysis", 10}]
```

consisting of 5 students, the courses they have taken, as well as their respective grades.

## 1 Exercise

1. Create and print a list with the students' names, alphabetically ordered.
2. Create and print a list with the courses, in descending alphabetical order.
3. Create and print a list with every student and the courses that he/she has taken.
4. Create and print a list with every course and every student that has taken the respective course.
5. Create and print a list with every student, the number of courses they have taken, as well as their average.
6. Create and print a list with every course, the number of students that have taken the course, as well as the courses' average grade.
7. Find and print the percentage of students that have grade greater than 8.5.
8. Find and print the course that most students have taken.
9. Print the following menu repeatedly:

Choose an option:

1. Find the percentage of students with grade greater than 8.5.
2. Find what courses a student has taken.
3. Find the course with most student attending.
0. Quit program.

Perform the actions requested by the user, until the user gives "0" as an input. If the user inputs anything other than the actions listed above, an error message should be appearing on the screen.