

# AYTS 5001 - Programming for Analytics

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## Lab 3: Data Structures, Strings, and Error Handling

Total Marks: 6

Estimated Time: 2 hours

### Learning Objectives

- Practice using lists, tuples, sets, and dictionaries
- Use string methods for cleaning and formatting
- Apply error handling using try-except blocks
- Combine control structures and functions with data structures

### Instructions

Complete the graded task below in a Jupyter Notebook or Python script.

This is an individual assignment. Demo to your tutor.

Total marks: 6 (graded)

### Graded Task: Student Data Processor (6 marks)

Write a program that processes a list of student records. Each student is represented as a dictionary with the keys: 'name', 'age', and 'grade'.

You should:

1. Create a list with 3 student dictionaries (1 mark)
2. Print the average grade (1 mark)
3. Print the names of students who scored above the average (1 mark)
4. Convert all names to uppercase and print them (1 mark)
5. Ask the user for a student name and use try/except to check if it exists in the list. Print their grade or an error message. (2 marks)

### Submission

Demonstrate your finished lab to your tutor to claim your marks and upload to GitHub after demoing.

Good luck!