**Exercises – Advance Python Data Structures**

**Task 1:**

Create a dictionary named student\_grades with at least three students and their corresponding grades. Then:

1. Add a new student to the dictionary.
2. Update the grade of one existing student.
3. Delete a student from the dictionary.
4. Print all student names and their grades.

**Task 2:**

Given the following sets:

math\_students = {"Alice", "Bob", "Charlie", "David"}

science\_students = {"Charlie", "David", "Eve", "Frank"}

Perform the following operations and print the results:

1. Union – Find students who are in either Math or Science.
2. Intersection – Find students who are in both Math and Science.
3. Difference – Find students who are in Math but not in Science.
4. Symmetric Difference – Find students who are in one subject but not both.

**Task 3:**

Given the following list of students:

**students = ["Alice", "Bob", "Charlie", "David", "Eve"]**

Perform the following operations:

1. Append a new student to the list.
2. Insert a student at the second position.
3. Remove a student from the list.
4. Sort the list in alphabetical order.
5. Reverse the order of the list.

**Task 4:**

Given the following tuple of exam scores:

**exam\_scores = (85, 90, 78, 92, 88)**

Perform the following operations:

1. Find the highest and lowest scores in the tuple.
2. Count how many times a specific score appears.
3. Convert the tuple into a list, add a new score, and convert it back to a tuple.
4. Slice the tuple to display only the first three scores.