def main():

    """

    Main function to manage and display student information using a dictionary.

    """

    # Create an empty dictionary to store student information

    student\_info = {}

    # --- 1. Create student entries ---

    # A dictionary of dictionaries is used. The outer dictionary key is the student's name.

    # The value is another dictionary containing that student's details.

    # This includes a list for the grades, as covered in Chapter 6.

    student\_info["Javier Silva"] = {

        "id": "A00123456",

        "gpa": 4.0,

        "credits\_completed": 60,

        "grades": [98, 95, 100, 97]

    }

    student\_info["Anne Briggs"] = {

        "id": "A00987654",

        "gpa": 3.7,

        "credits\_completed": 45,

        "grades": [92, 88, 95, 90]

    }

    student\_info["Joel Murach"] = {

        "id": "A00555111",

        "gpa": 3.9,

        "credits\_completed": 75,

        "grades": [99, 97, 96, 100]

    }

    # Print the full dictionary

    print("--- Initial Student Information Dictionary ---")

    print(student\_info)

    # --- 2. List all student names ---

    print("\n--- Listing Student Names ---")

    # The default iteration for a dictionary loops through its keys.

    for name in student\_info:

        print(name)

    # --- 3. Access and display all student information ---

    print("\n--- Accessing Full Student Information ---")

    # Use the \t escape sequence for uniform spacing in the header.

    print("Name\t\t\tID\t\tGPA\tCredits\tGrades")

    # The .items() method is used to access both the key (name) and value (details)

    for name, details in student\_info.items():

        # Access the values from the inner dictionary using their keys.

        student\_id = details['id']

        gpa = details['gpa']

        credits = details['credits\_completed']

        grades = details['grades']

        print(f"{name}\t\t{student\_id}\t{gpa}\t{credits}\t\t{grades}")

    # --- 4. Remove a student ---

    print("\n--- Removing a Student ---")

    # The pop() method removes the key-value pair for the specified key.

    removed\_student = student\_info.pop("Anne Briggs")

    print("Removed 'Anne Briggs' from the dictionary.")

    print("Updated dictionary:")

    print(student\_info)

    # --- 5. Access specific GPA information ---

    print("\n--- Accessing Specific GPA Information ---")

    # Loop through the remaining students to get their GPA

    for name in student\_info:

        # The .get() method safely retrieves a value.

        # First, get the inner dictionary for the student.

        details = student\_info.get(name)

        # Then, get the GPA from that inner dictionary.

        gpa = details.get("gpa", "N/A") # Use "N/A" as a default if GPA key is missing

        print(f"GPA for {name}: {gpa}")

    # --- 6. Clear the student registry ---

    print("\n--- Clearing the Student Registry ---")

    # The clear() method removes all items from the dictionary.

    student\_info.clear()

    print("Dictionary after clearing all students:")

    print(student\_info)

# This special if statement checks if the script is being run directly.

# If it is, it calls the main() function to start the program.

if \_\_name\_\_ == "\_\_main\_\_":

    main()

# Final print statement as required by the assignment

print("\nCompleted by, Javier Silva")

A screen shot of a computer program

AI-generated content may be incorrect.

A computer screen shot of a black screen

AI-generated content may be incorrect.

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