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Course: IT FDN 110 A

[Github](#)

## Module 07 – Classes and Objects

### Introduction

Module 07 covered Classes and Objects. It began with clarifying between statements, functions, and classes. Then we went further into detail on data classes, presentation classes, and processing classes. We also learned about constructors, attributes, and properties. We finished the chapter by going over class inheritance and the concept of overridden methods. We ended the chapter with the module 07 assignment and posted our code onto Github.

### Step 1: Understanding the problem

This week required adding additional classes into our program. We had to add into our program a class named Person and one named Student. We also needed to add write\_data\_to\_file functions into our program.

### Step 2: Writing the Code

This step is split into two parts with the first being defining the classes and the second being the write\_data\_to\_file function.

- a. This how fairly straightforward and built upon last week's content. The first step was to define classes for handling file operations. I used this as my template:

```
class FileProcessor:
    """Handles reading from and writing to a file."""

    @staticmethod
    def read_data_from_file(file_name: str, student_data: list):
        """Reads data from a JSON file."""
        pass # Implement this method

    @staticmethod
    def write_data_to_file(file_name: str, student_data: list):
        """Writes data to a JSON file."""
        pass # Implement this method
```

Once I went through and defined the classes the next step was the method.

- b. The purpose of the `write_data_to_file` function is to save the student data to a JSON file. I was about to do this through using this script:

```
@staticmethod
def write_data_to_file(file_name: str, student_data: list):
    """Writes data to a JSON file."""
    try:
        with open(file_name, 'w') as file:
            json.dump(student_data, file, indent=4)
    except Exception as e:
        print(f"Error writing data to file: {e}")
```

### Step 3: Test and refine as needed

This step was simple. Once I ran the program in PyCharm and saw it worked as intended. I did the same in the Python command shell. It passed without any issues.

### Summary

Module 07 introduced the basics of Classes and Objects in Python, clarifying differences between statements, functions, and classes. It explored various types of classes such as data, presentation, and processing classes, along with concepts like constructors, attributes, and properties. The module covered class inheritance and overridden methods. The chapter concluded with the Module 07 assignment followed by sharing our code onto GitHub.