**18/12/2023**

**OOP in python**

Procedural programming is about writing procedures or methods that perform operations on the data, while object-oriented programming is about creating objects that contain both data and methods.

Class**: -** A class contains the blueprints or the prototype from which the objects are being created. It is a logical entity that contains Single inheritance enables a derived class to inherit properties from a single parent class, thus enabling code reusability and the addition of new features to existing code. Some attributes and methods

Object: - the object is an entity that has a state and behaviour associated with it. It may be any real-world object like a mouse, keyboard, chair, table, pen, etc.

**Inheritance in Python**

Inheritance allows us to define a class that inherits all the methods and properties from another class.

**Parent class**:- is the class being inherited from, also called base class.

**Child class: -** is the class that inherits from another class, also called derived class

**Polymorphism**

The word polymorphism means "many forms", and in programming it refers to methods/functions/operators with the same name that can be executed on many objects or classes.

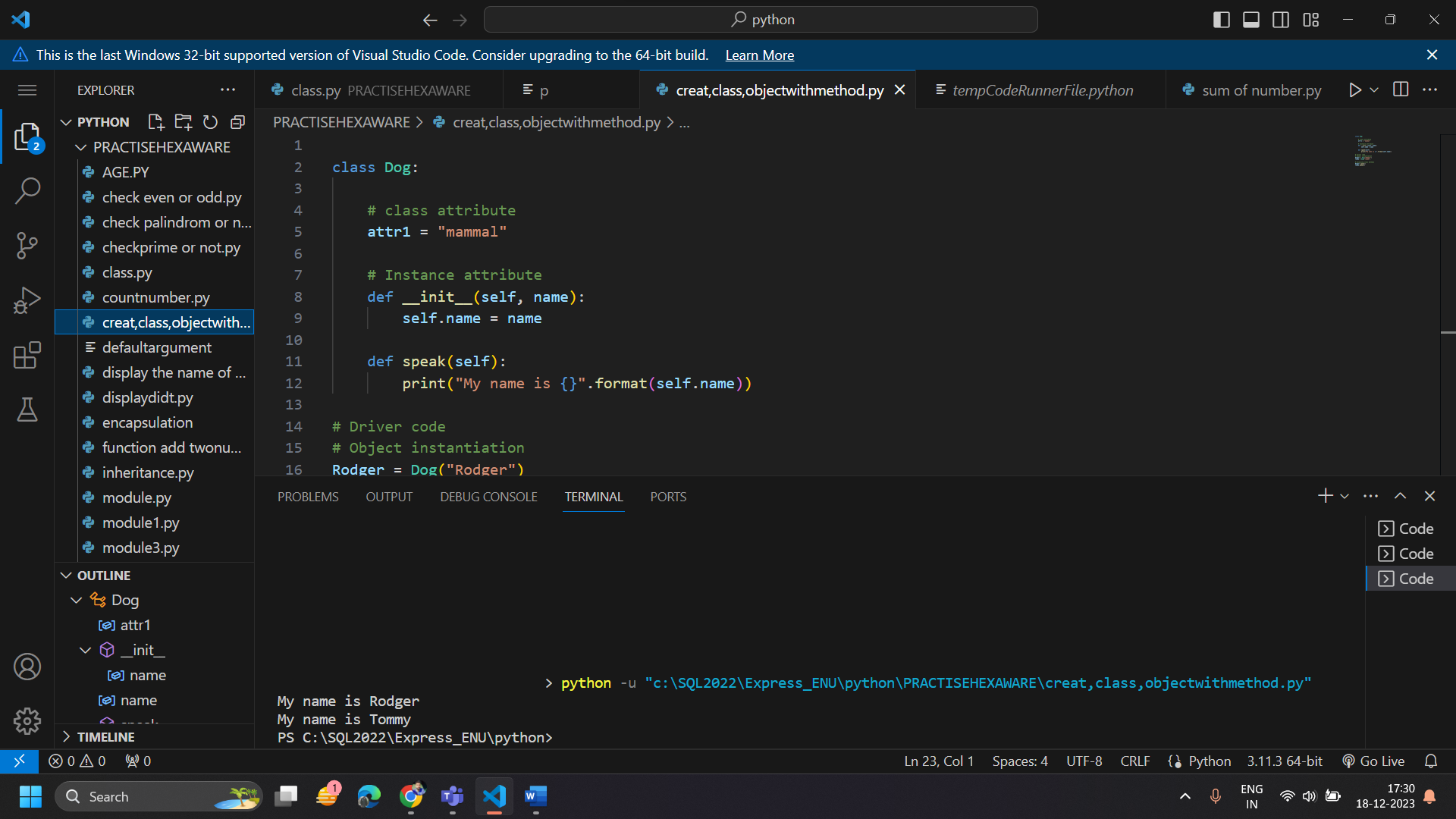
**Encapsulation**

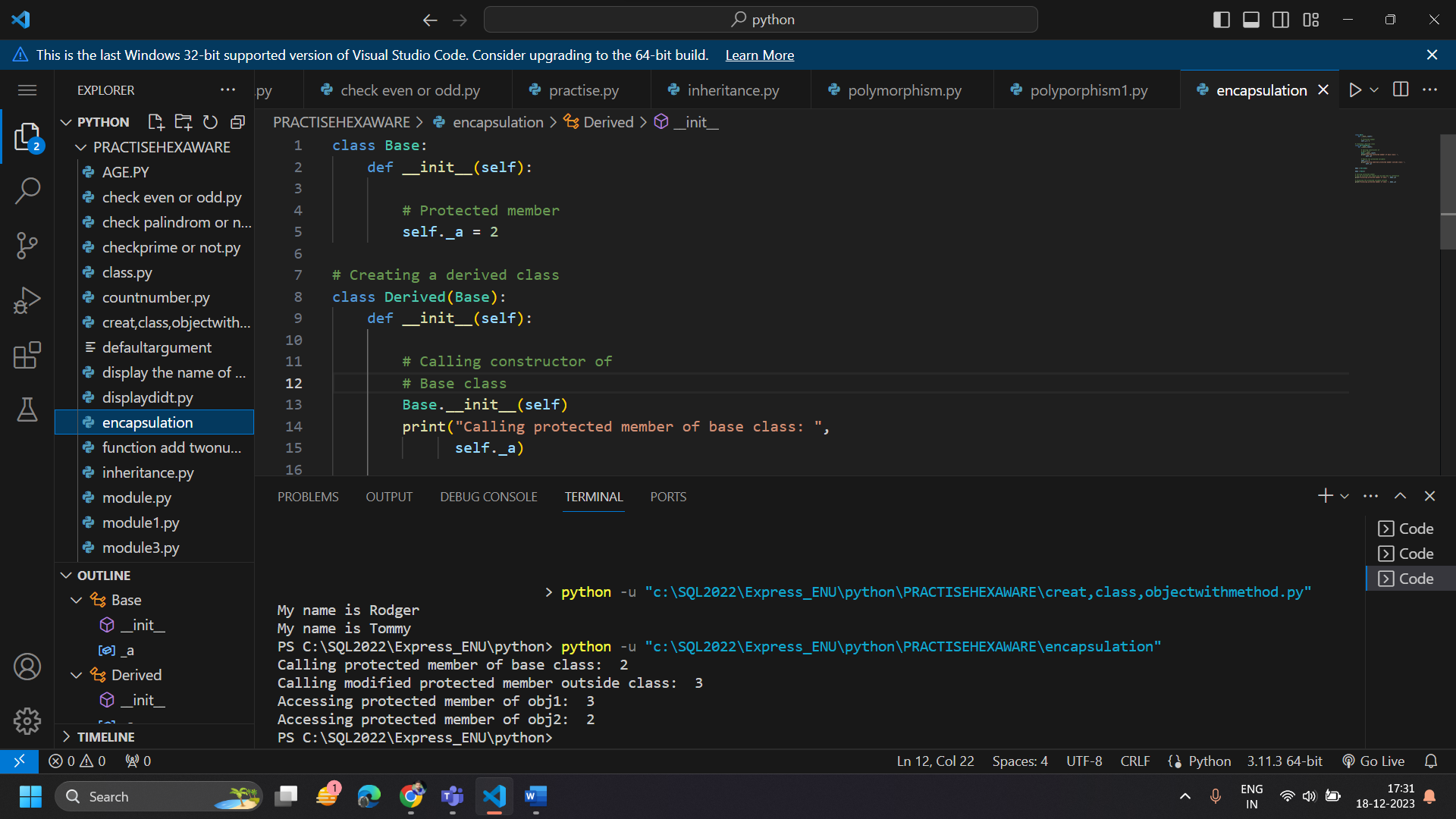
Encapsulation is a mechanism of wrapping the data (variables) and code acting on the data (methods) together as a single unit. In encapsulation, thevariablesof a class will be hidden from other classes, and can be accessed only through the methods of their current class.

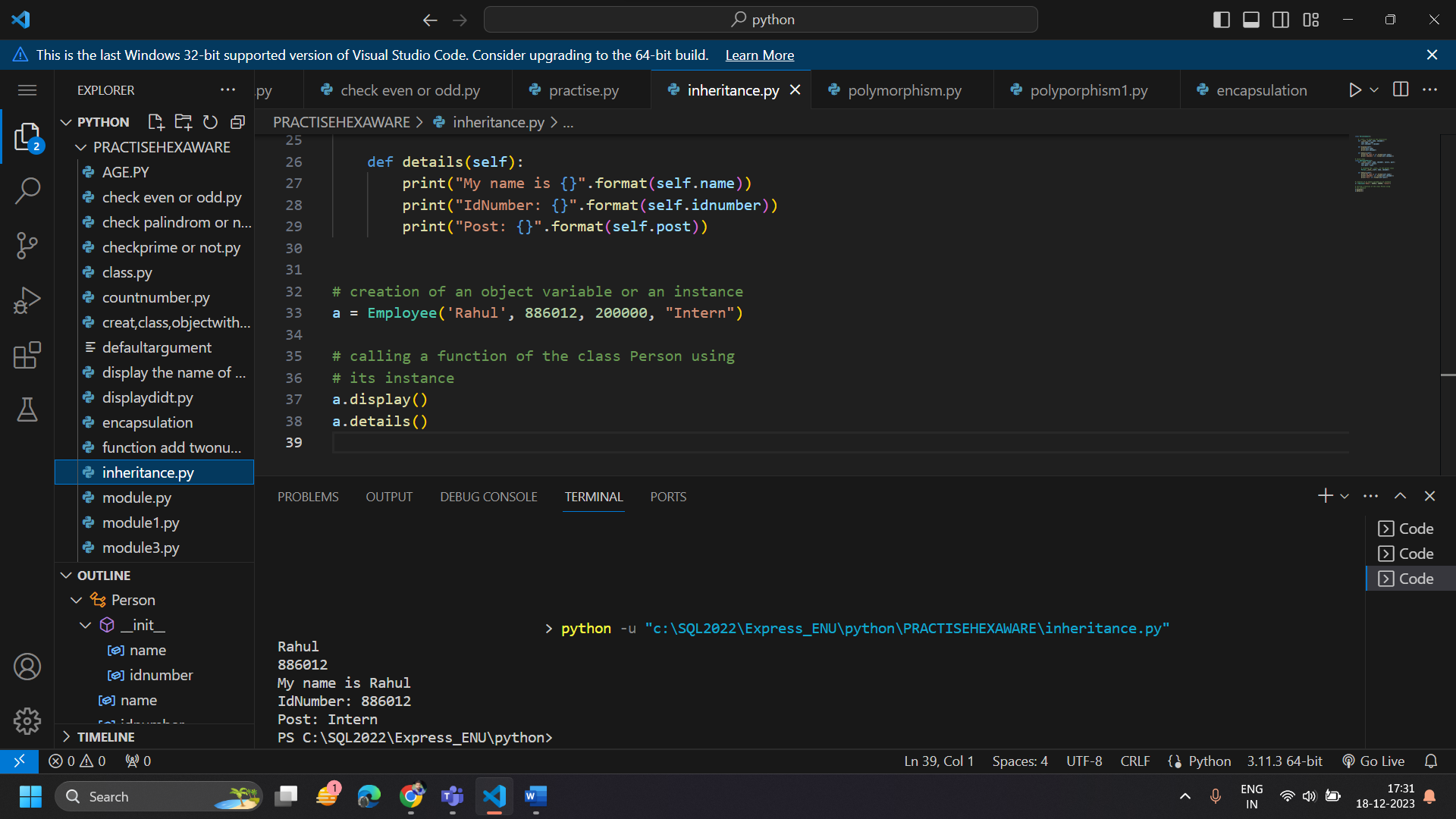
**Module :-**

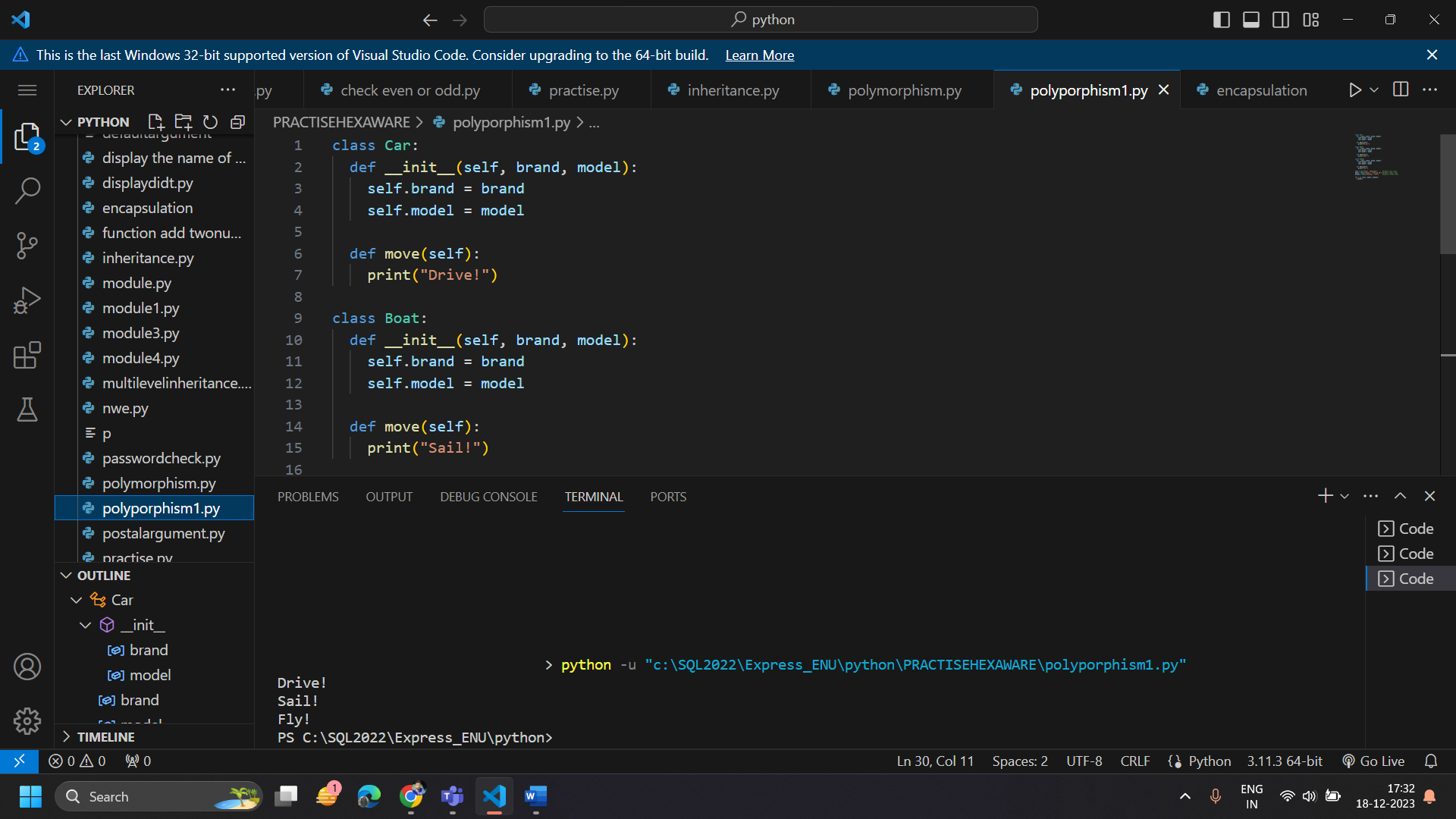
module is a file containing Python definitions and statements. A module can define functions, classes, and variables. A module can also include runnable code

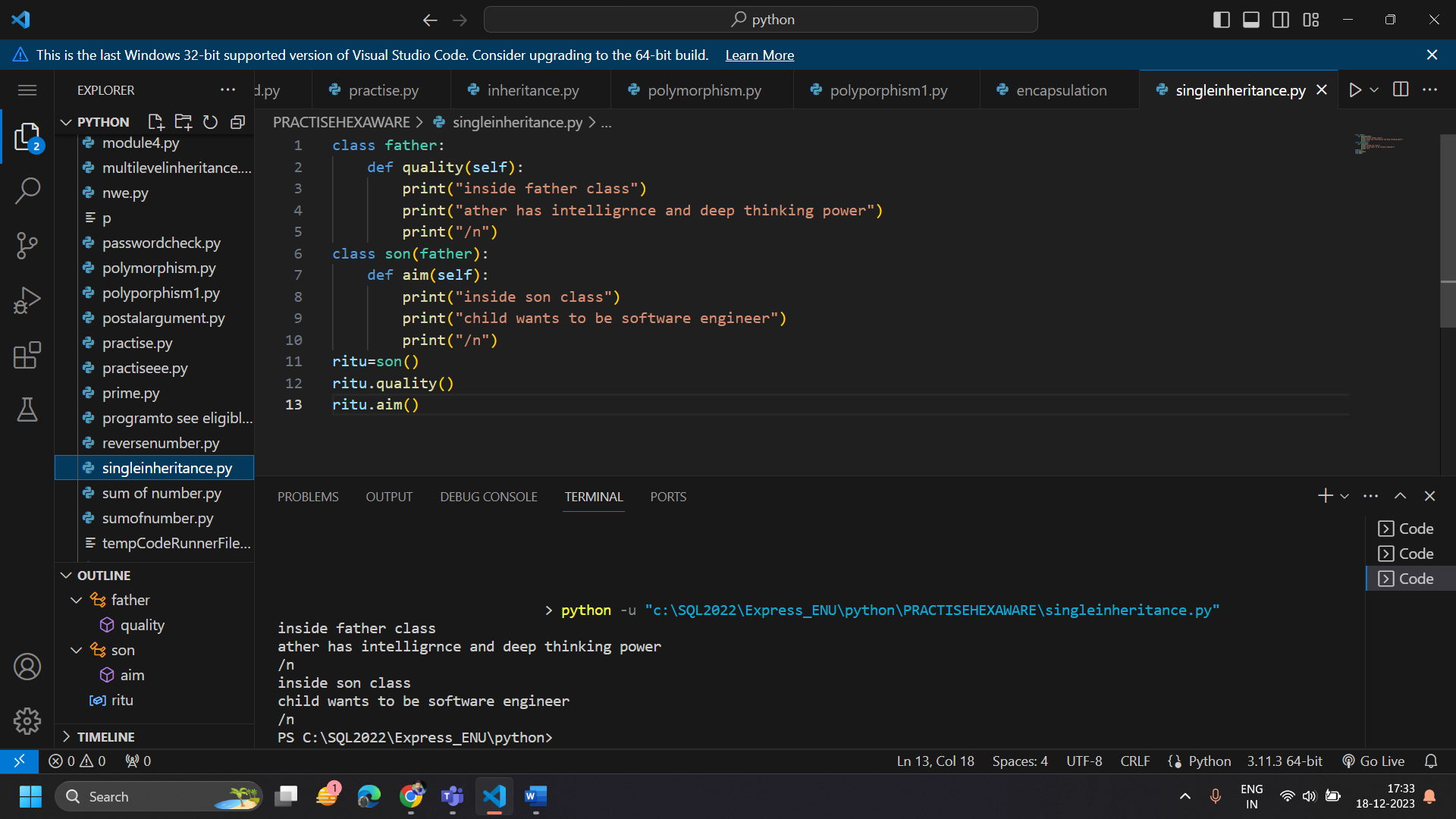
We can import the functions, and classes defined in a module to another module using the import statement in some other Python source file

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