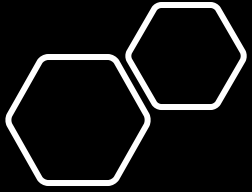# COEN 244 PROGRAMMING METHODOLOGY II
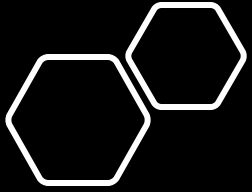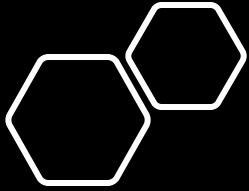
Tutorial #04: Inheritance

Exercise 1

Implement class Vehicle with following protected attributes:

- Model of the vehicle(e.g., Ford, Toyota) as a standard library string.
- The mileage of the vehicle as an integer.
- A four-digit id of the vehicle as a standard library string, such as string vehicle_id = "1234";

❑Define get and set functions for each attribute.

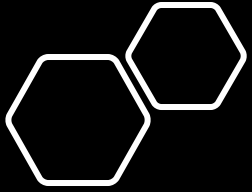❑Define a default constructor for class Vehicle

Exercise 2

- Derive a Car class from the Vehicle class, the class should have an additional data member for the passenger capacity as an integer

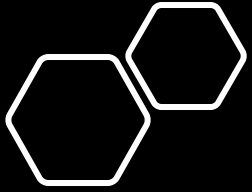- Implement get and set and default constructor

Exercise 3

- Derive a Truck class from the Vehicle class, the class should have an additional data member for the weight limit of the truck as an integer.

- Implement get and set functions and default constructor.
- Create object of class car and truck and test your implementation.

Exercise 4

➤ Create base class and child class and implement a constructor for both of them and try to understand Why the base class's constructor is called on creating an object of derived class.

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Exercise 5

- ❖ Create class Shape with 2 protected members: width(int) and height(int)
- ❖ Implement SetWidth and SetHight.
- ❖ Create a derived class Rectangle and implement a function to calculate the area of Rectangle
- ❖ Create an object from class Rectangle and test your functions.