OOPs- PYTHON

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Agenda

1. Basics of OOP
2. Types of variables & methods
3. Inheritance
4. Polymorphism
5. Encapsulation
6. Abstraction
7. Interface

Requirements

1. Python basic knowledge
2. Functional programming

OOPs

What is class?

- ✓ Class is a template/blueprint/prototype for creating objects.
- ✓ Every object belong to some class
- ✓ Email class:- email1 + email2 + email3 +email4

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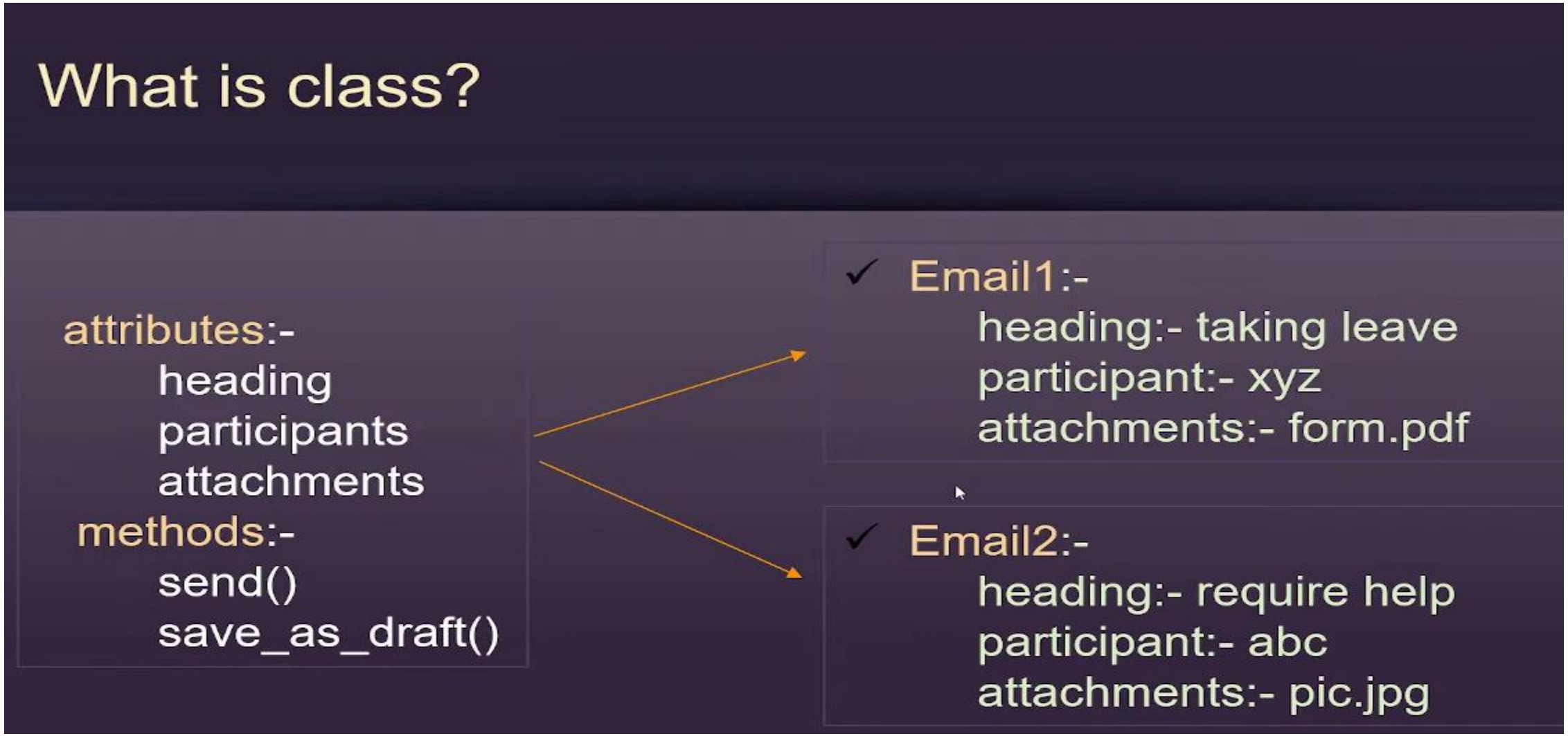

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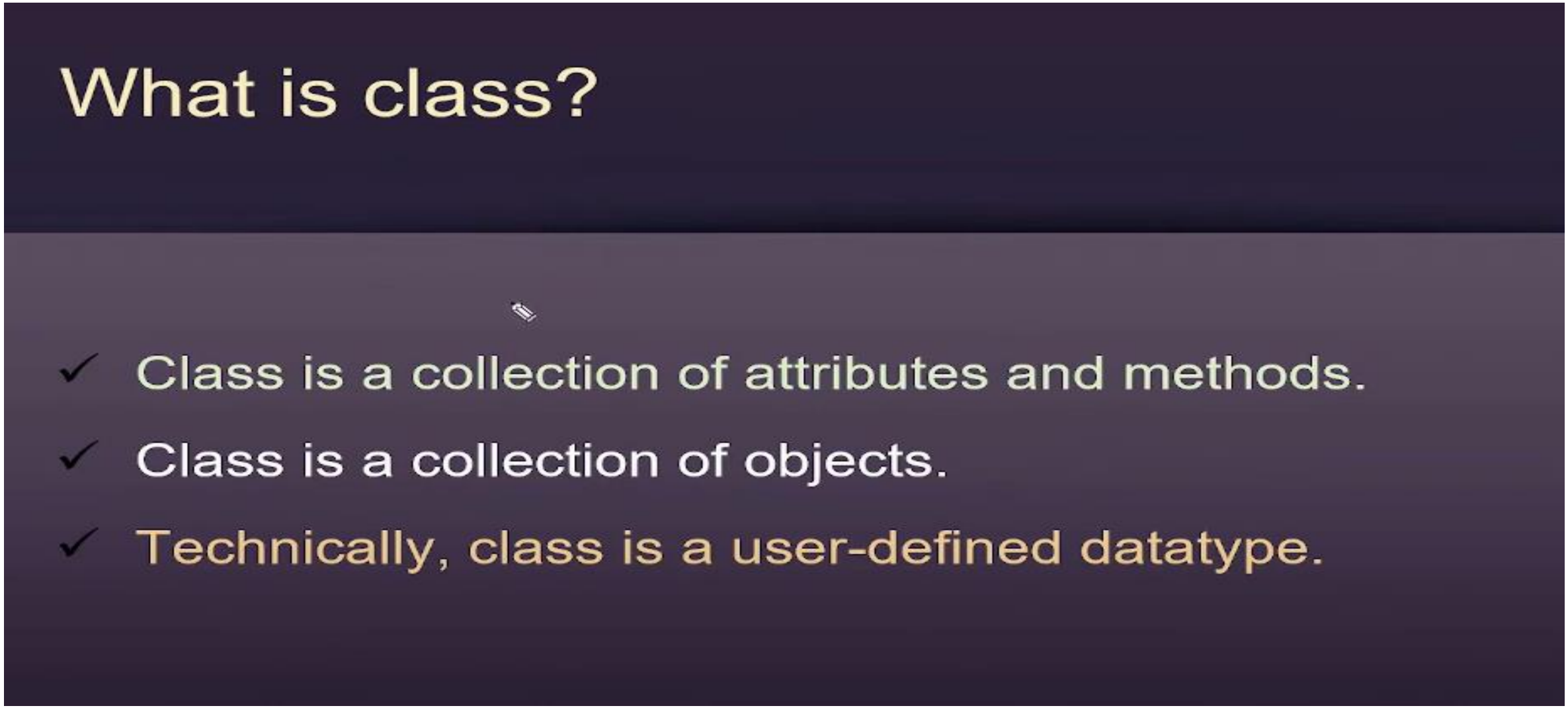

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What is constructor?

- ✓ Special method used for initializing objects with attributes
- ✓ It is __init__() method
- ✓ First arguments is ‘self’.

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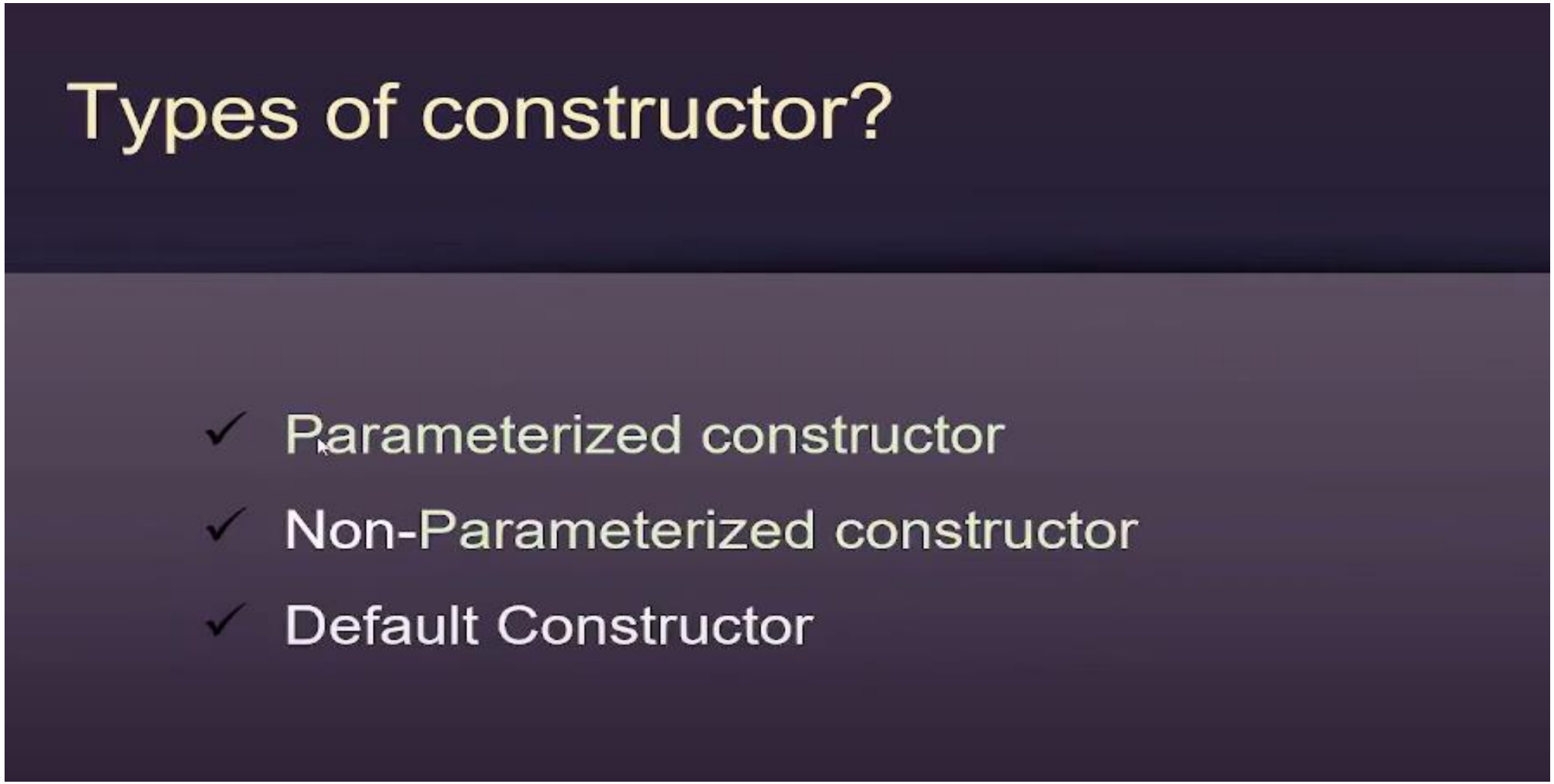
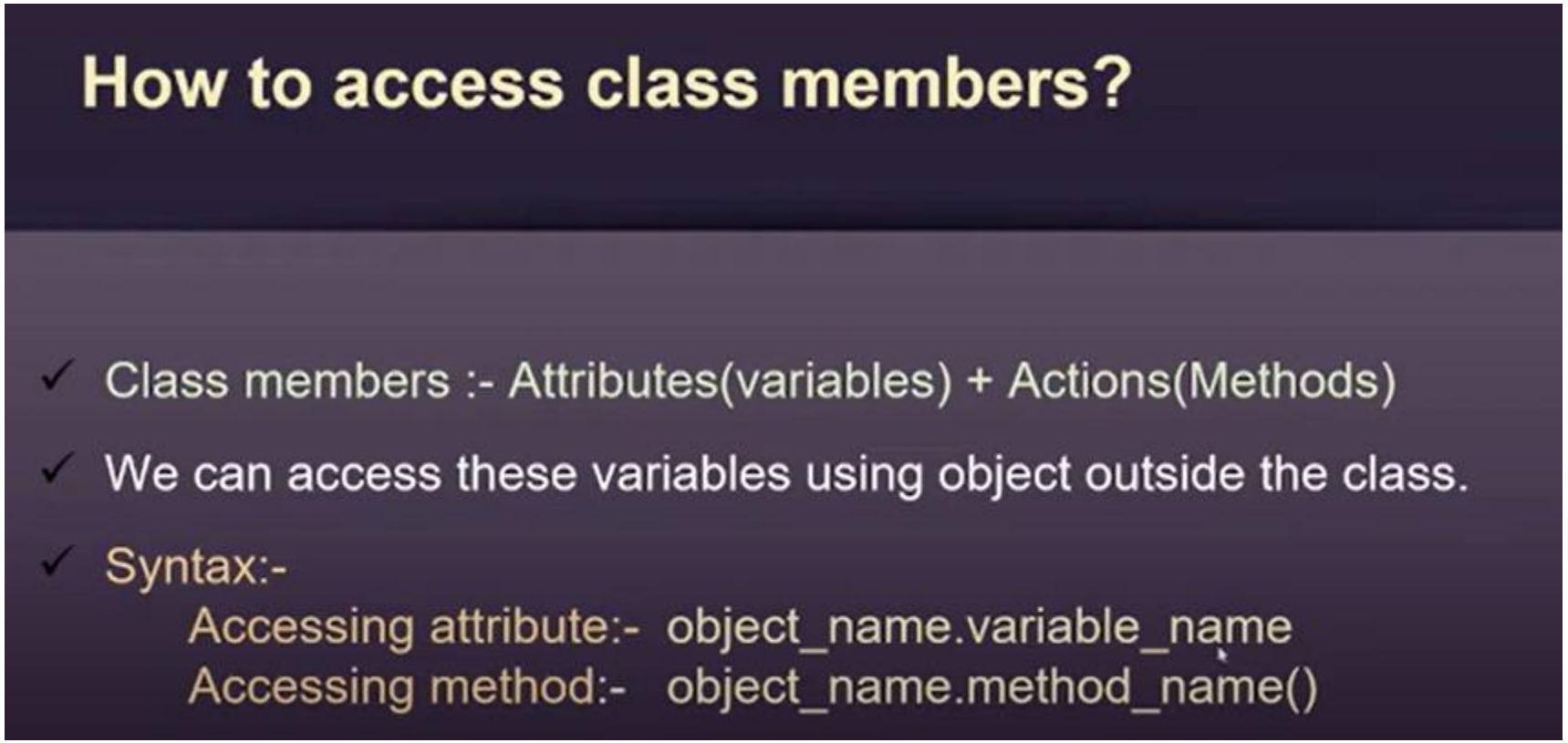


Accessing Class Members



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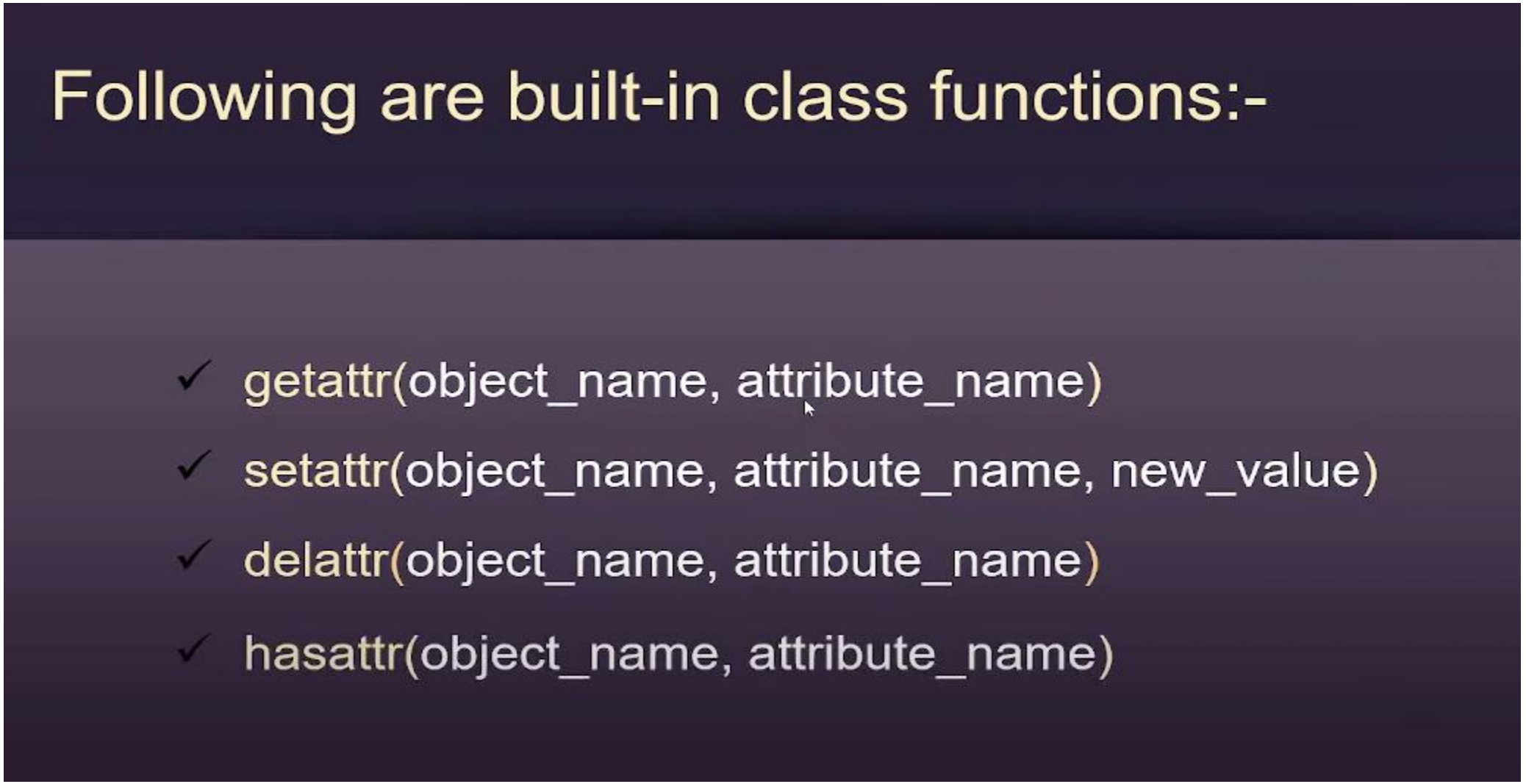

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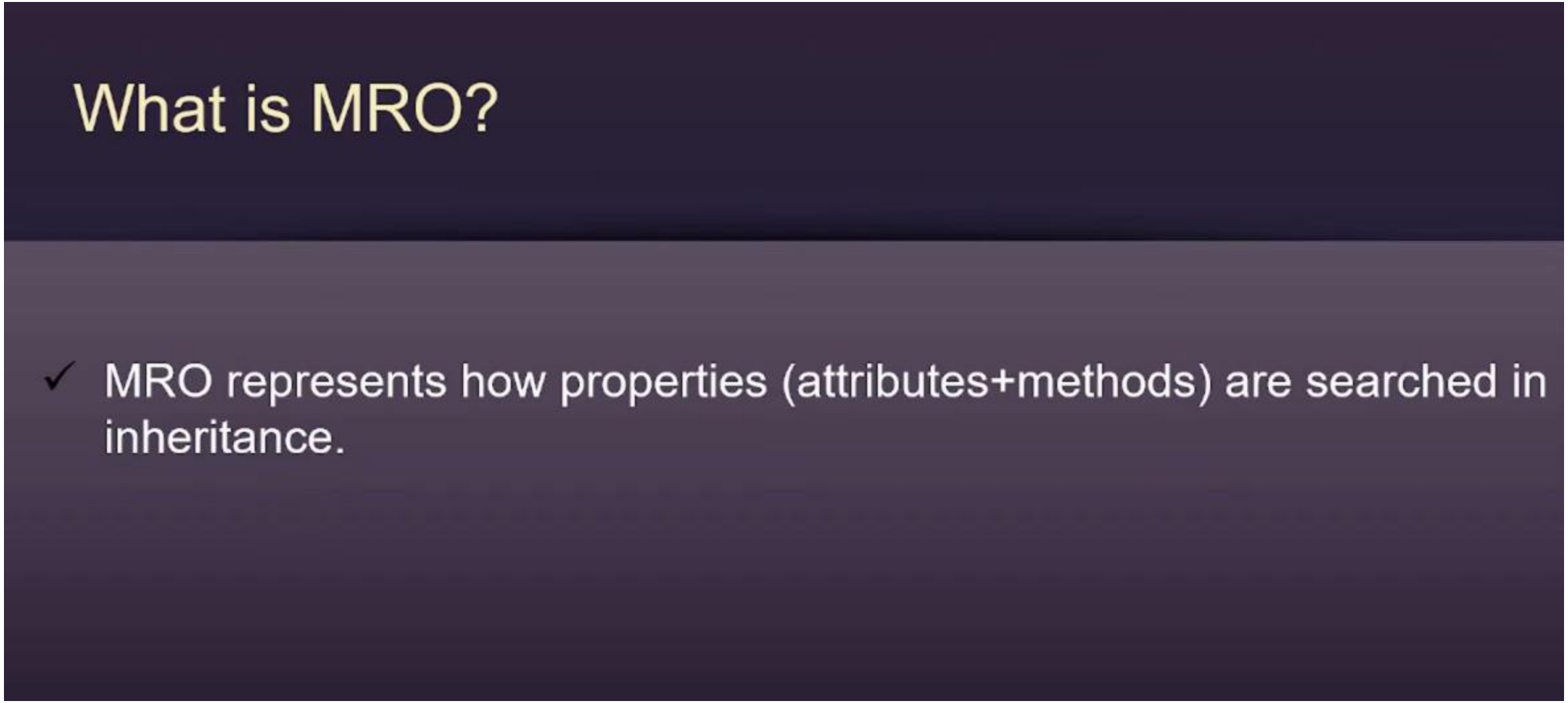

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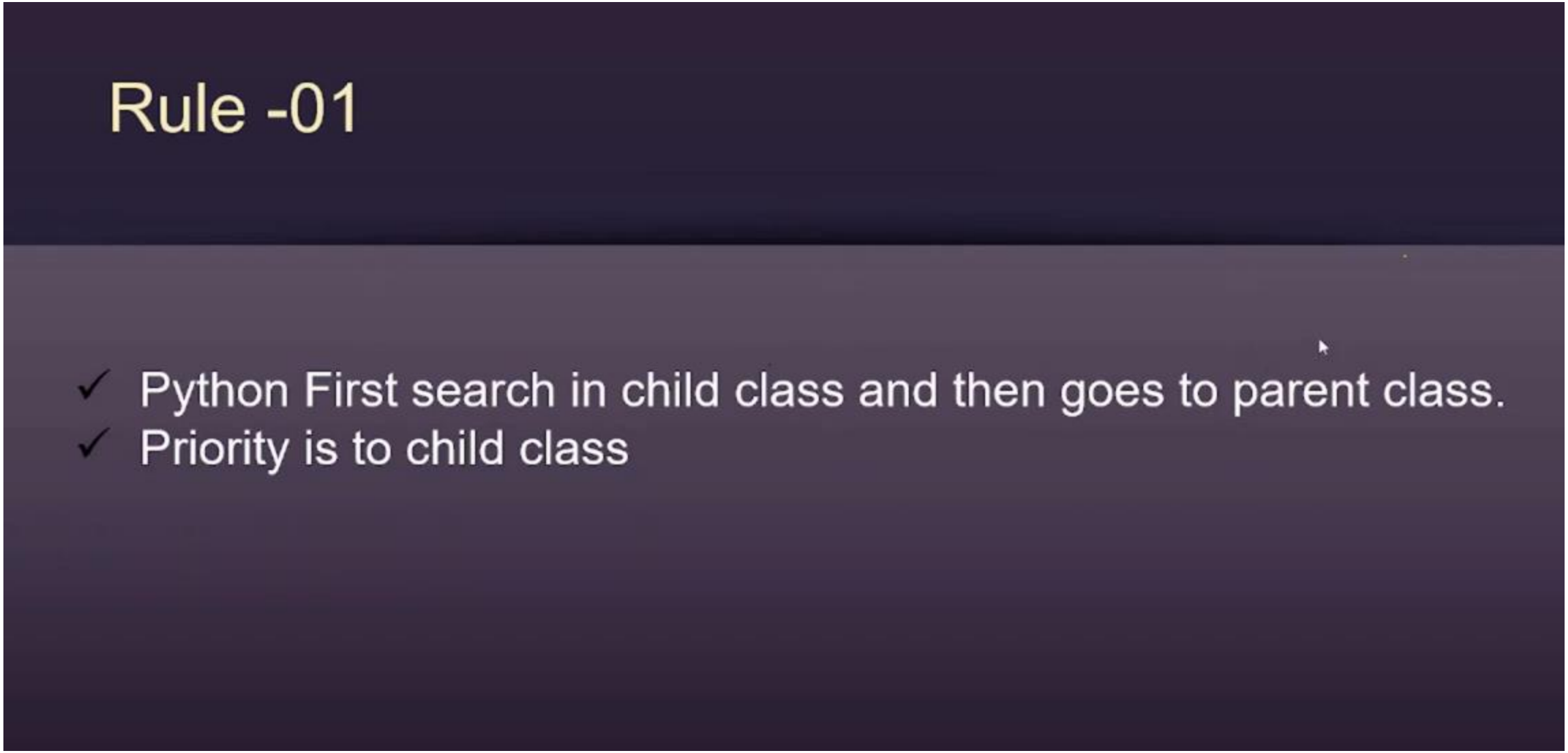

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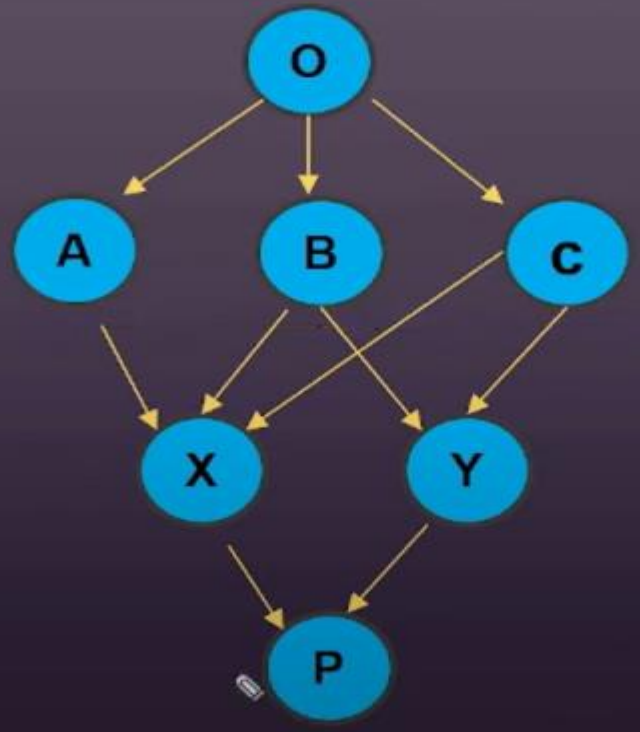
Rule -02 MRO Follows 'Depth First Left to Right approach'



- ✓ mro(o):- Object
- ✓ mro(A):- A,O
- ✓ mro(B):- B,O
- ✓ mro(C):- C,O
- ✓ mro(X):- X,A,B,C,O
- ✓ mro(Y):- Y,B,C,O

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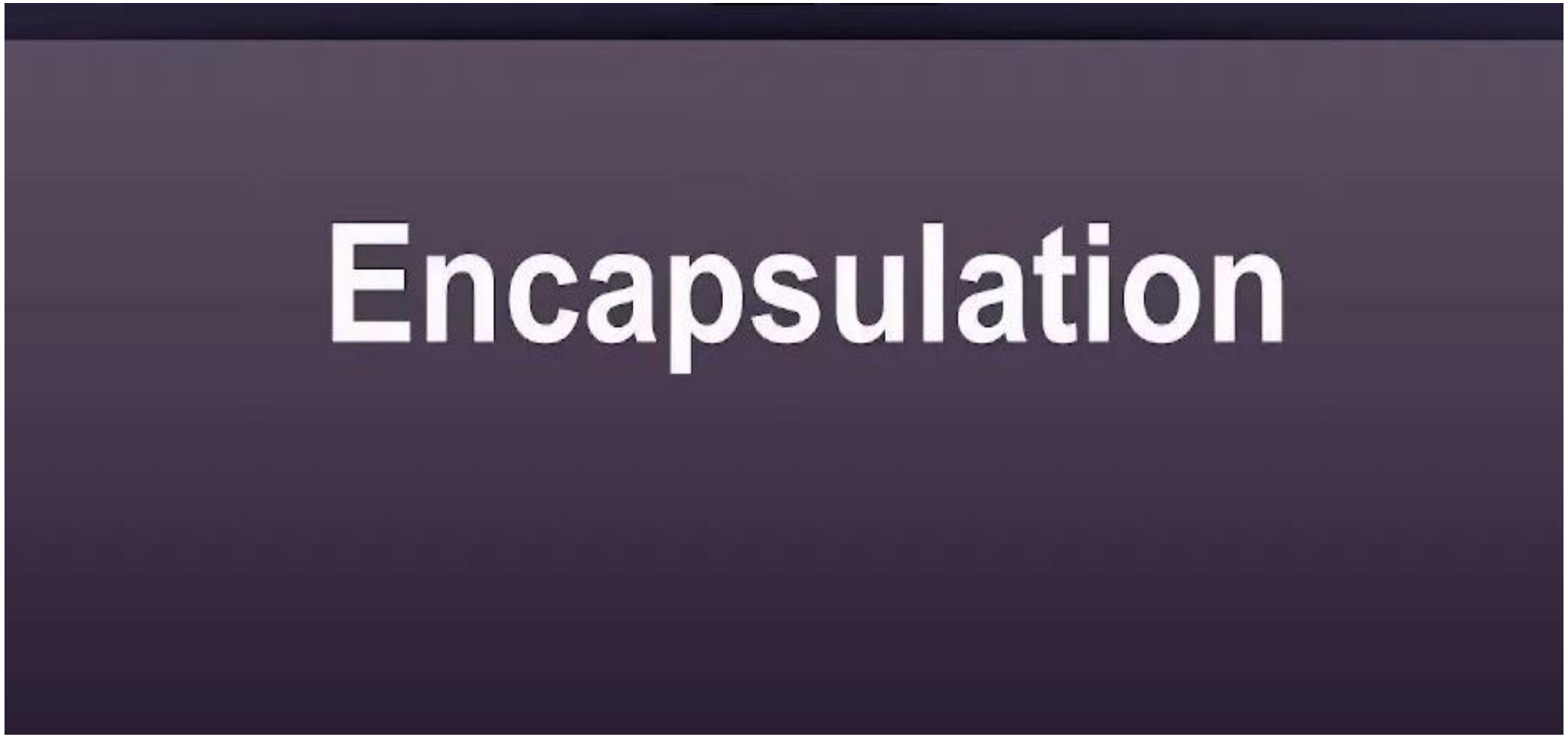

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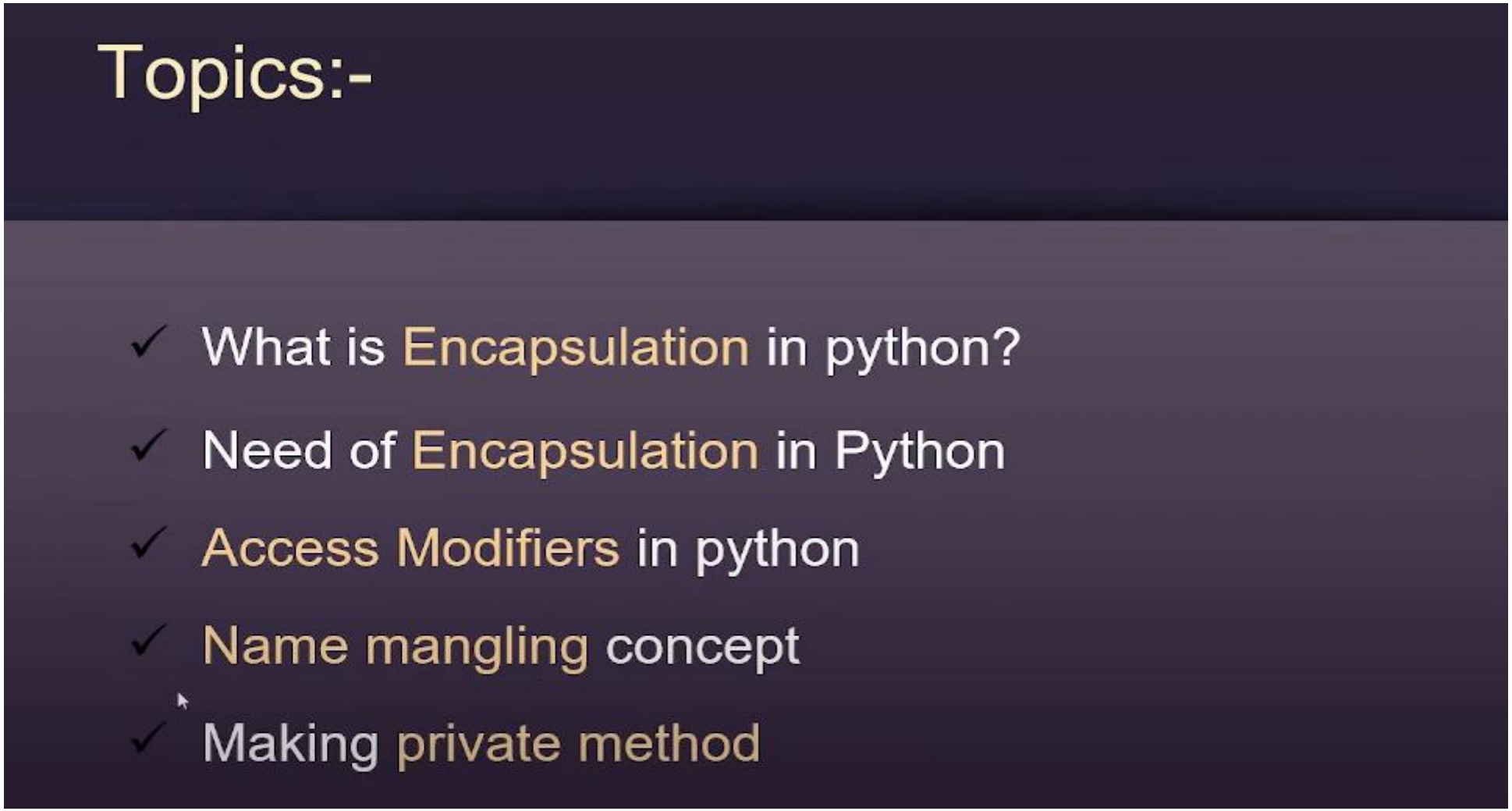

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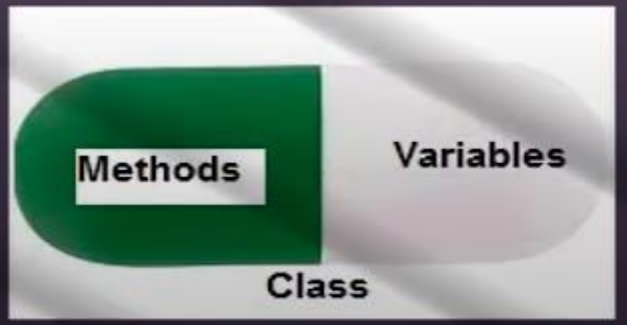
What is Encapsulation in python?

- ✓ Wrapping up data and methods working on data together in a single unit (i.e class) is called as encapsulation.



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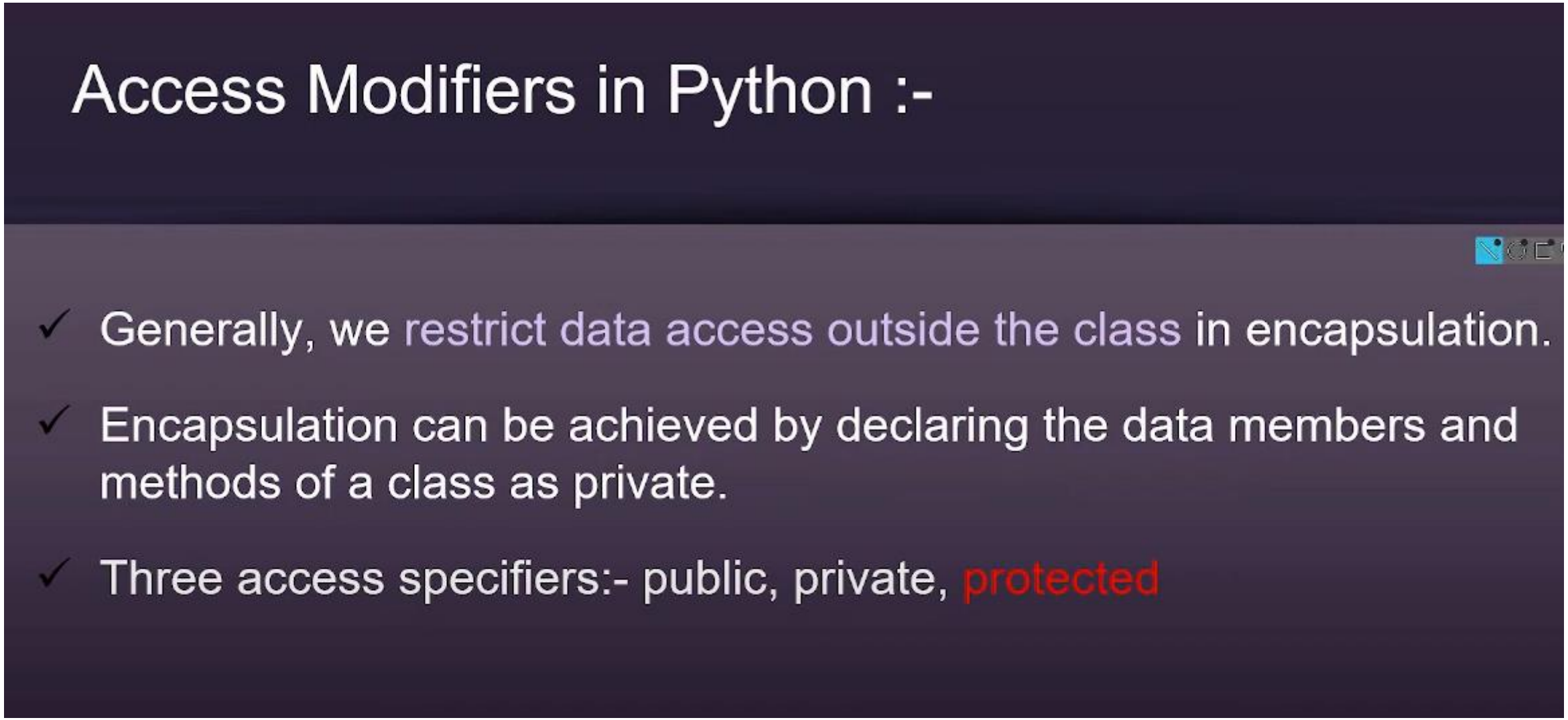

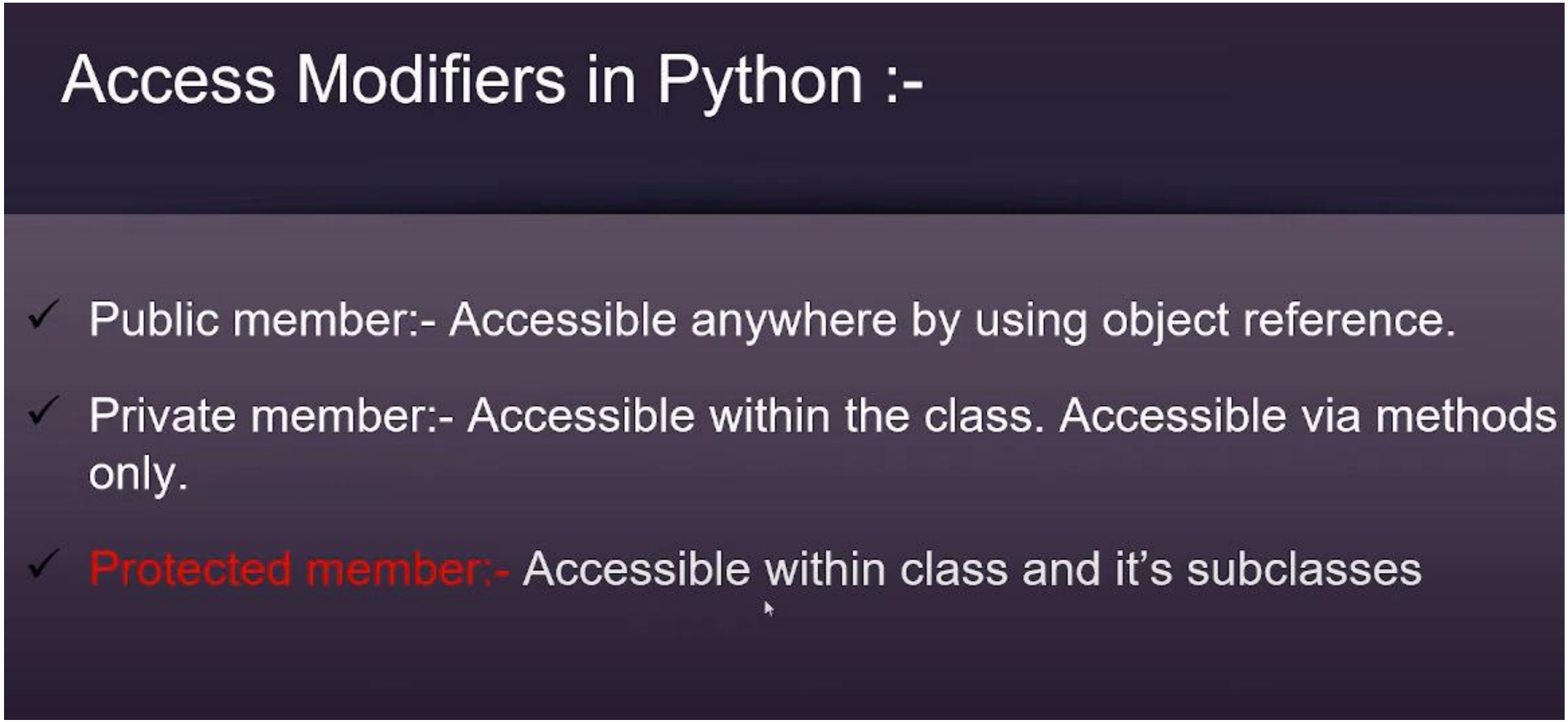

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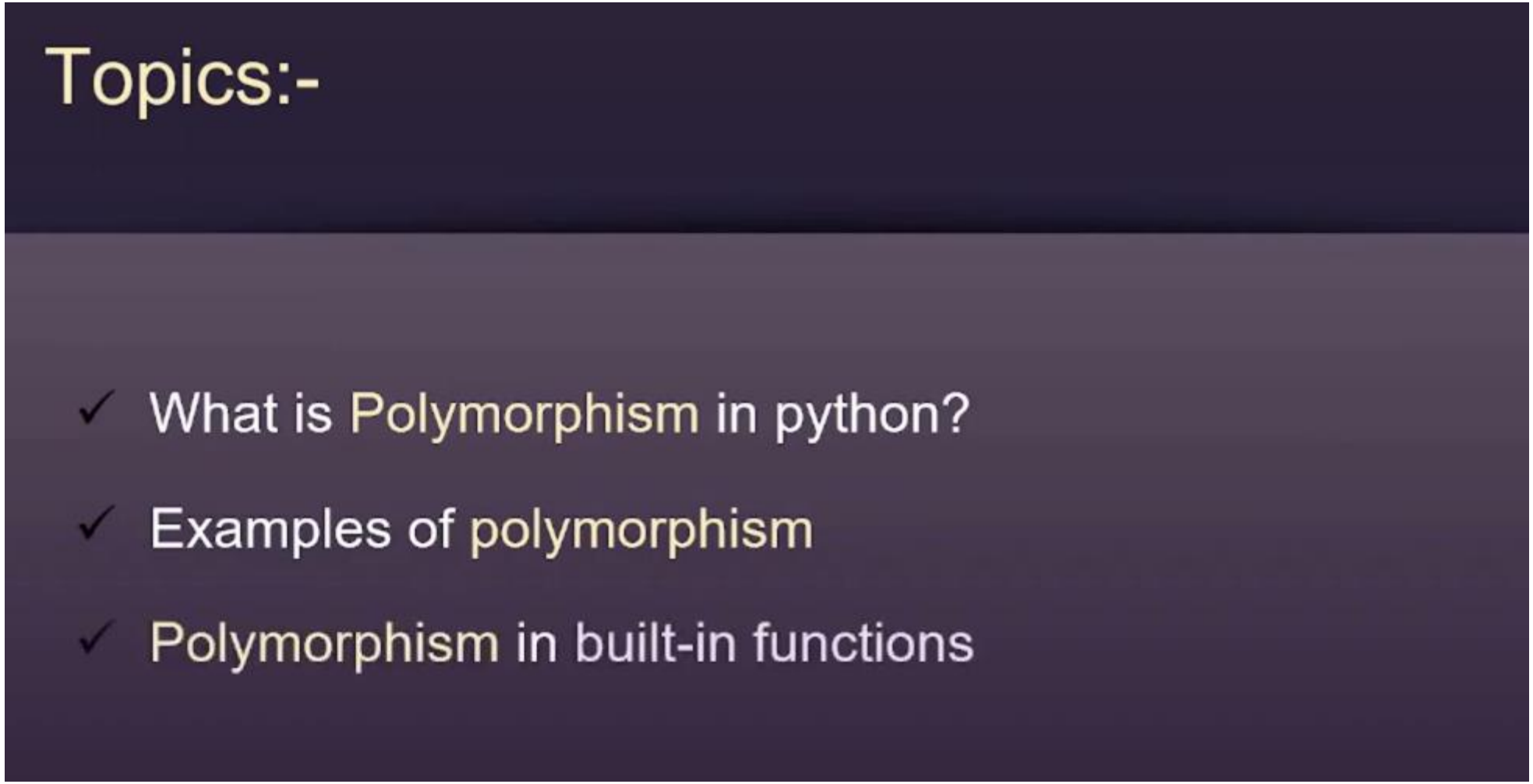

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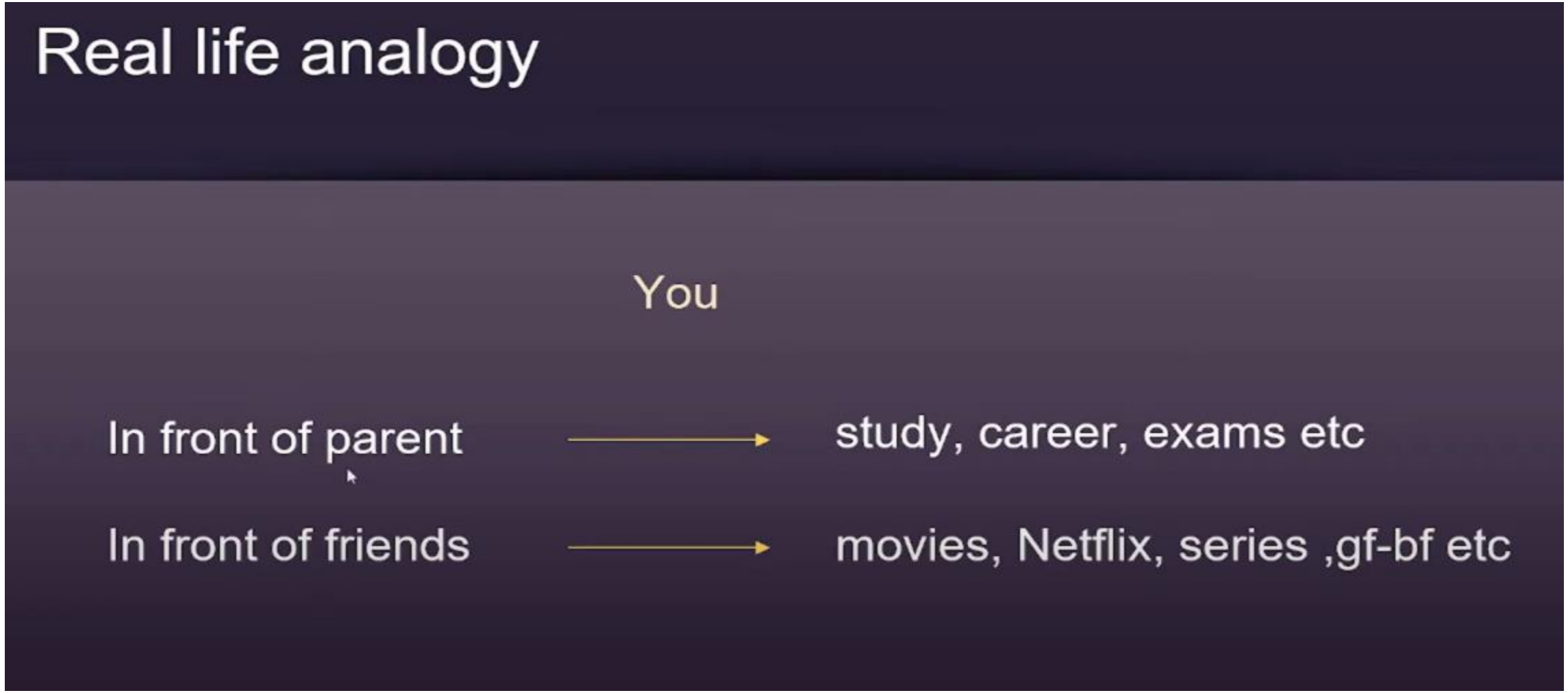

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What is Polymorphism in python?

- ✓ Polymorphism in python is an ability of python object to take many forms.
- ✓ If a variable, object, method performs different behaviour according to situation is called as polymorphism.

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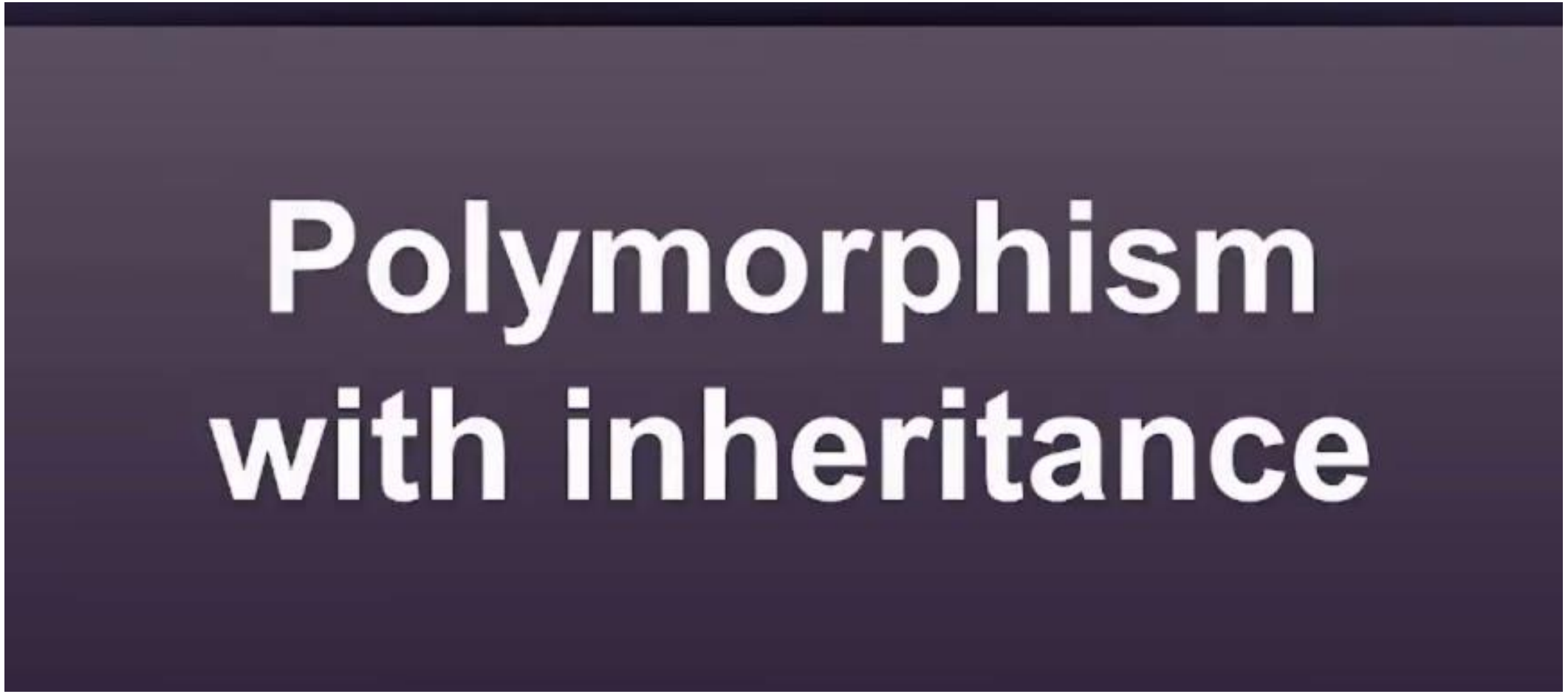

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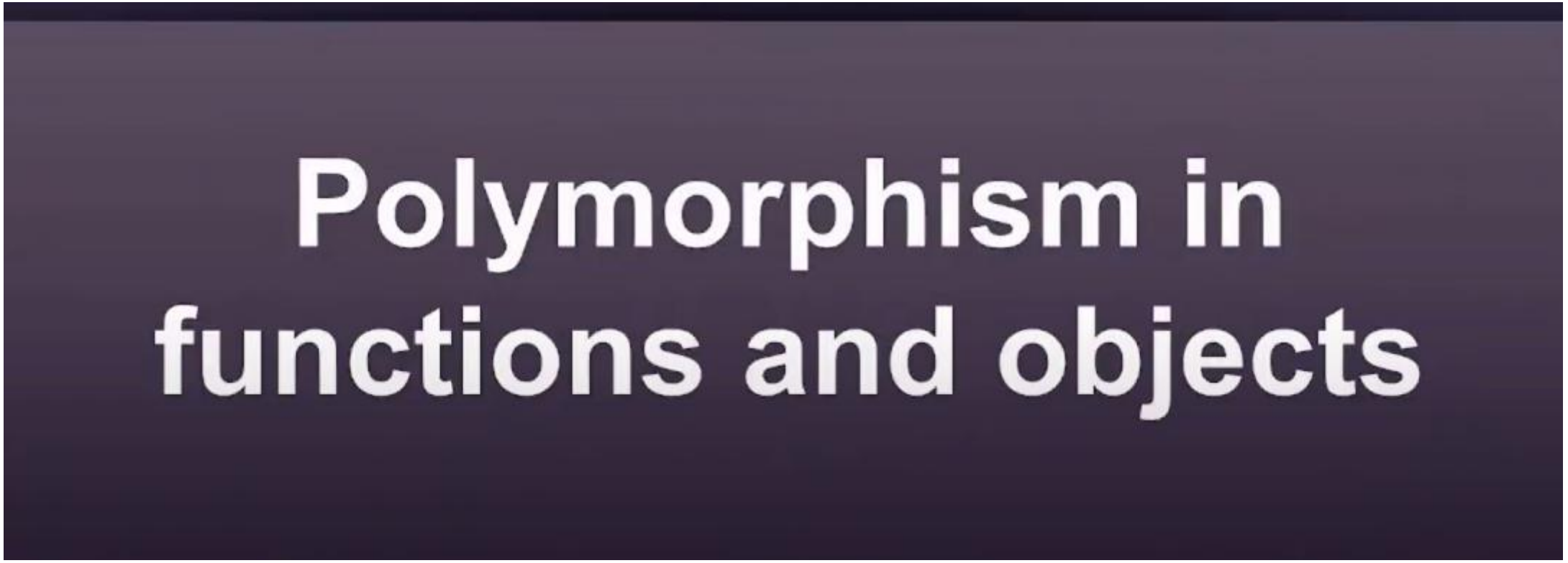

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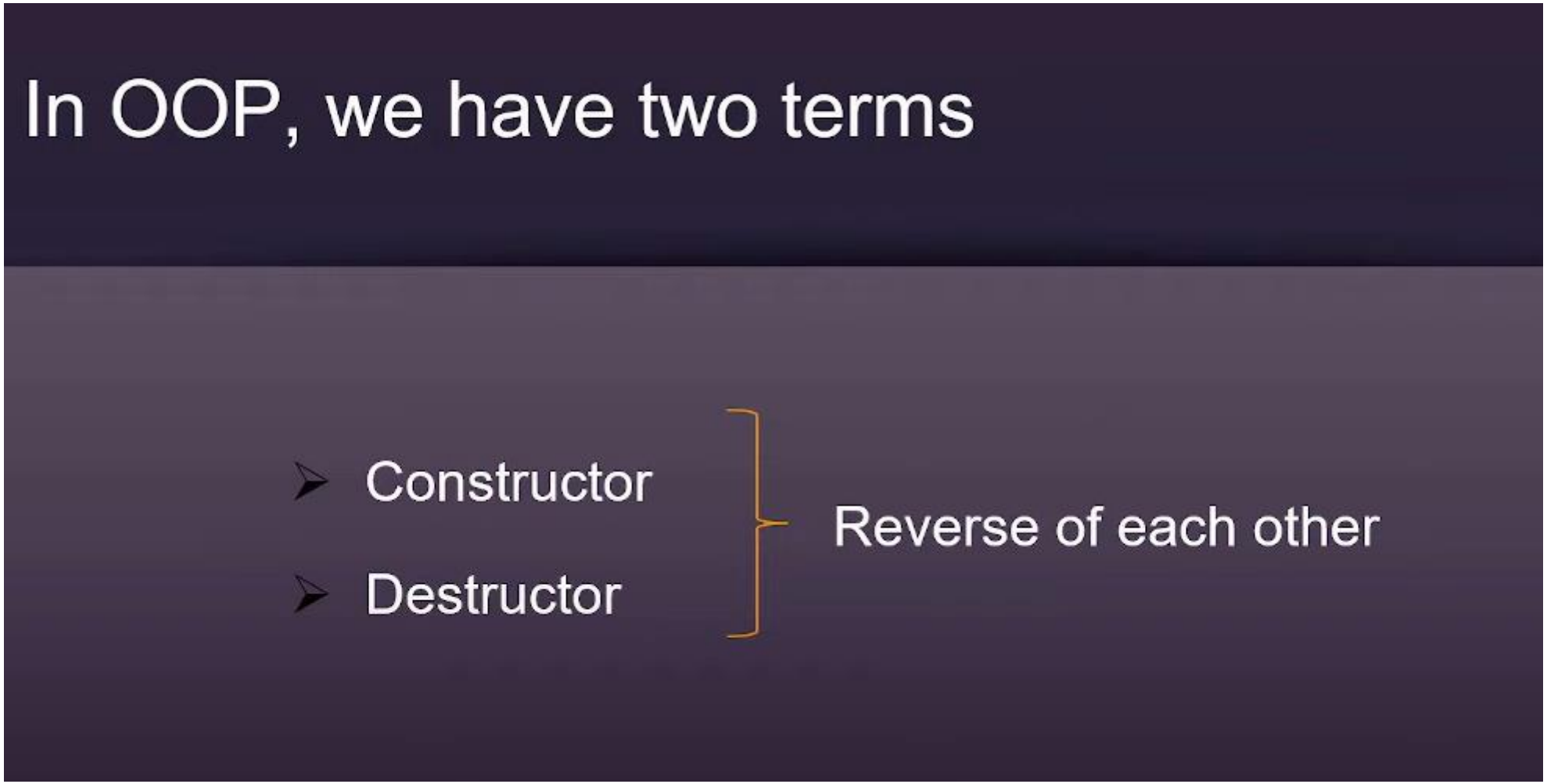
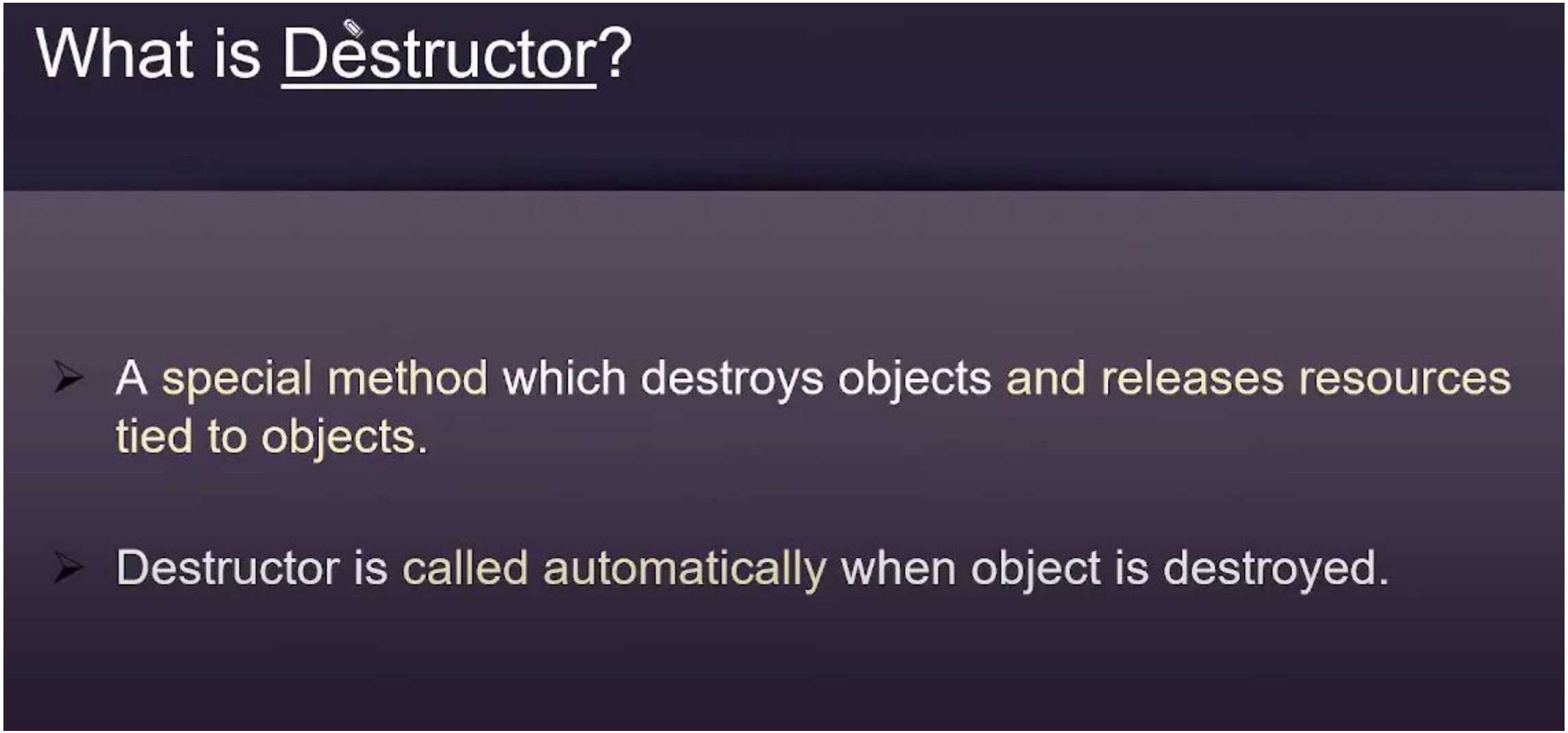
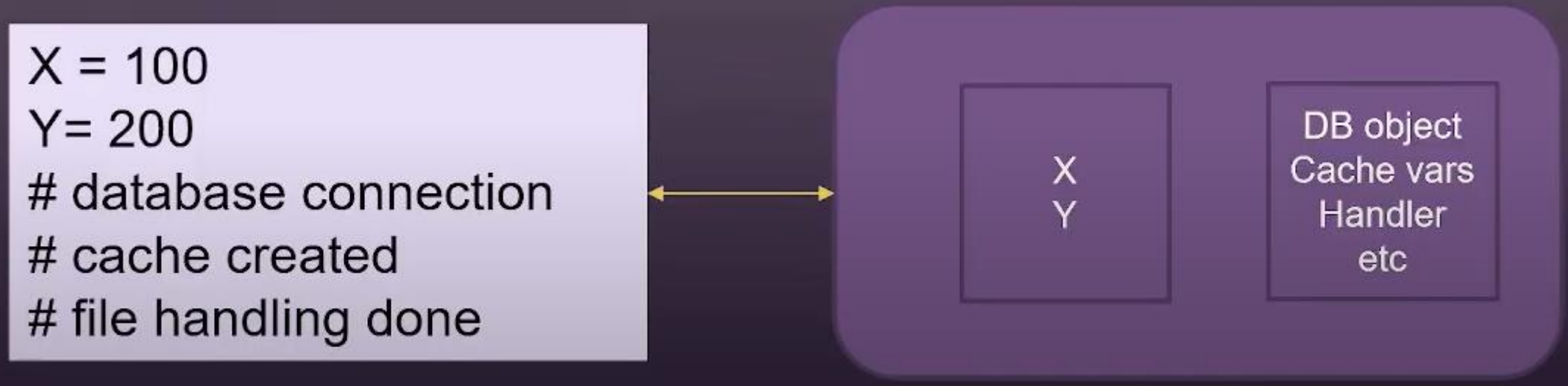




What is purpose of Destructor ?

- Releasing objects tied to destroyed objects



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Below are two conditions when destructor is called :-

- Reference counting reaches to 0.
- When variable goes out of scope

Note:- In Python, The special method __del__() is used to define a destructor.

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