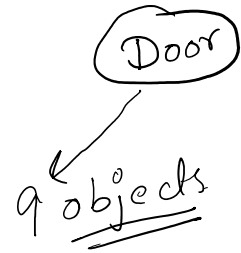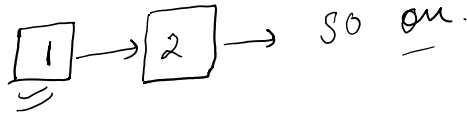"Everything is Object in Python"

⇒ <u>Object</u> Oriented Programming
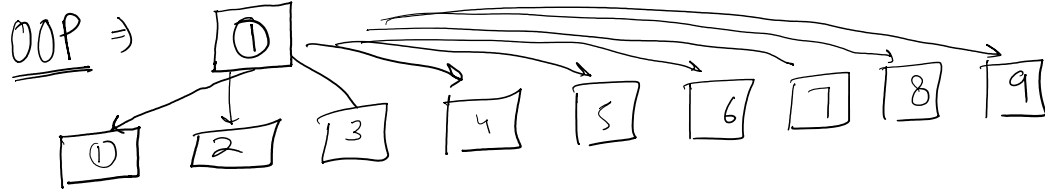
<u>Why ?</u>

<u>Scenario</u> :- Building a house

① <u>Non-OOP</u> ⇒ 10 doors

[1] → [2] → so on.

OOP ⇒ [①] → [①] [②] [3] [4] [5] [6] [7] [8] [9]

(Door) → 9 objects

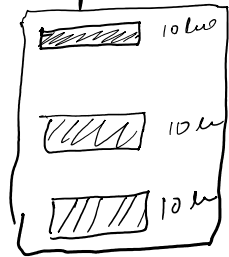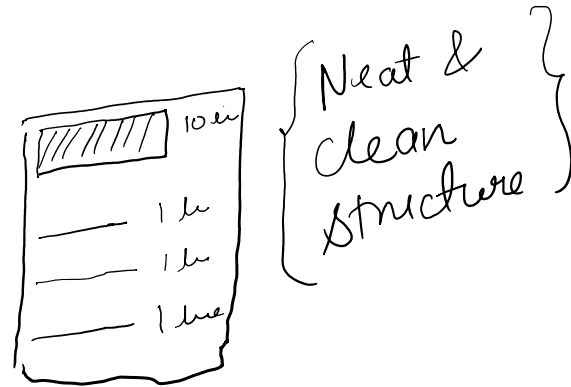Save time

② <u>Coding Structure</u>

<u>Non-OOP</u> ⇒   1 door → 10 line of code
          10 doors → 100 lines of code

{ Code messy Complex structure }

10 liu
10 liu
10 liu

OOP ⇒ (1 door → 10 lue of code) Class

10 object → 1 lue of code

⇒ 20 lue of code

10 liu
1 liu
1 liu
1 line

{ Neat & clean structure }

③ <u>Uses</u>

<u>Non-OOP</u> ⇒ learning purpose → school , colleges
          (base strong)

<u>OOP</u> ⇒ development purpose
       (companies , businesses)

EXAMPLES

① <u>Window</u>   Vs   <u>Kali Linux</u>
     <u>Normal</u>   (OOP)

② first time trying Pizza
     <u>Non-OOP</u>

(Self - made)

* Collect all ingredient by own
(Hectic)

* Taste ⟶ no guarantee
(Performance ✗)

* Kitchen ⟶ messy
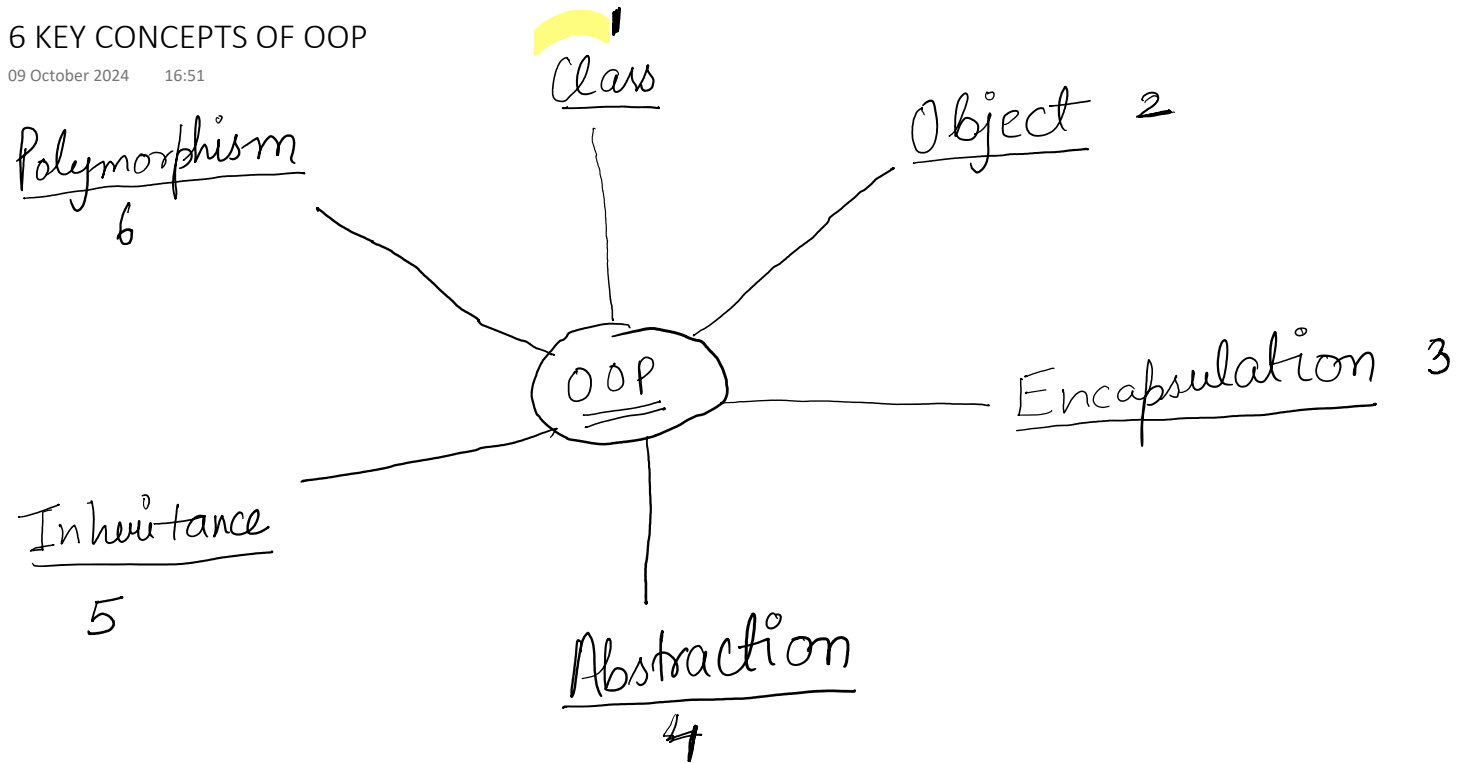(Code ⟶ messy)

<u>OOP</u>
(Restaurant order)

* Ingredients ⟶ ✗ (Not Hectic)

* Menu ⟶ (Pizza) ⟶ class
           ↙   ↓   ↘ form

Margherita   Cheese   fresh
          Burst

object

* Taste ⟶ ✓ (perfect)
(Performance ↑)

* Kitchen ⟶ organised
(organized code)

6 KEY CONCEPTS OF OOP

09 October 2024   16:51

Polymorphism
6

Class
1

Object   2

OOP

Encapsulation   3

Inheritance
5

Abstraction
4

CLASSES & OBJECTS

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Contestant Class

O1   O2   O3   O4

Object

Game Class

Game 1   Game 2   Game 3 } Objects
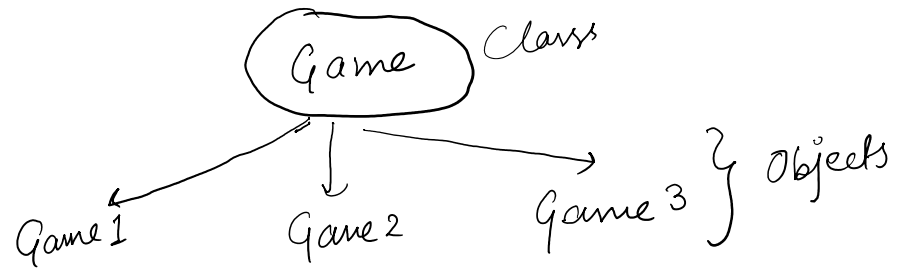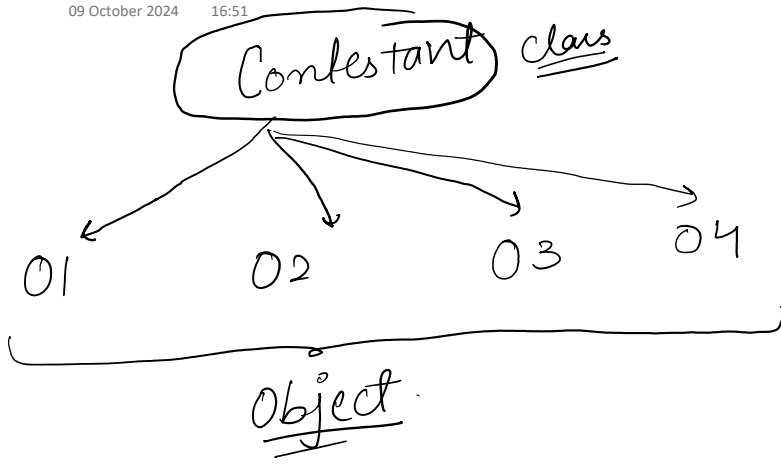
ENCAPSULATION

Data + function = Encapsulation

(Attributes) (Methods)

Squid Game ⟶ Encapsulation

Combination of data & function

⟶ (task/games)

(Players, Host
VIP, frontman
Money)

ABSTRACTION

(Displaying only important
information)

What Players see

processes

INHERITANCE

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Class 1 → data + function

inherit

Class 2

---

bark ← Dog → 1 nose
run ←   4 legs
              1 tail

inherit   inherit

Labra   German Shepher

data   data
function   functio

---

data — same dress code   Player — Food data

tasks

Different Playing methods

001   067   456   101
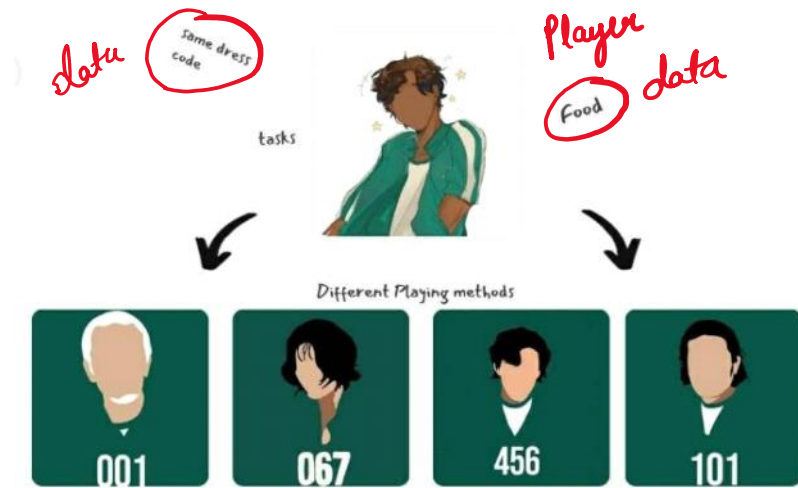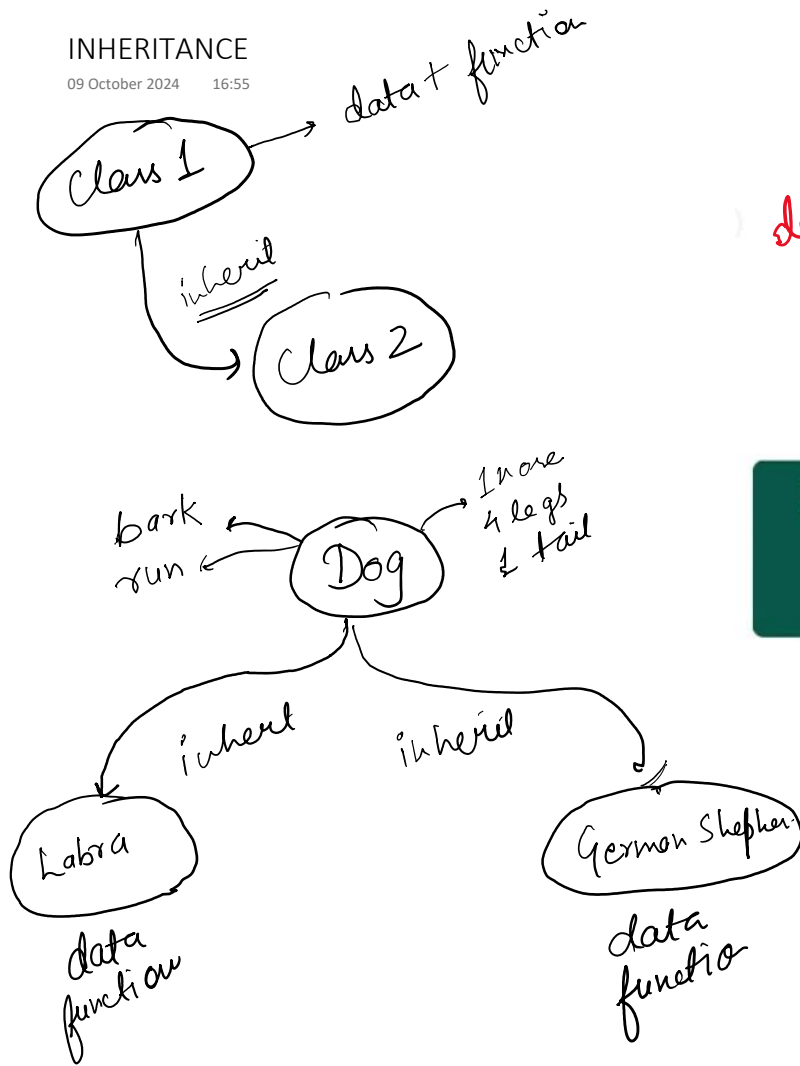
POLYMORPHISM

Ability to exist in
different forms.

001

creator   player   host