

Design a Pen



Gather Requirements

→ Ask for overview from the interviewer

Apple Notes

entity

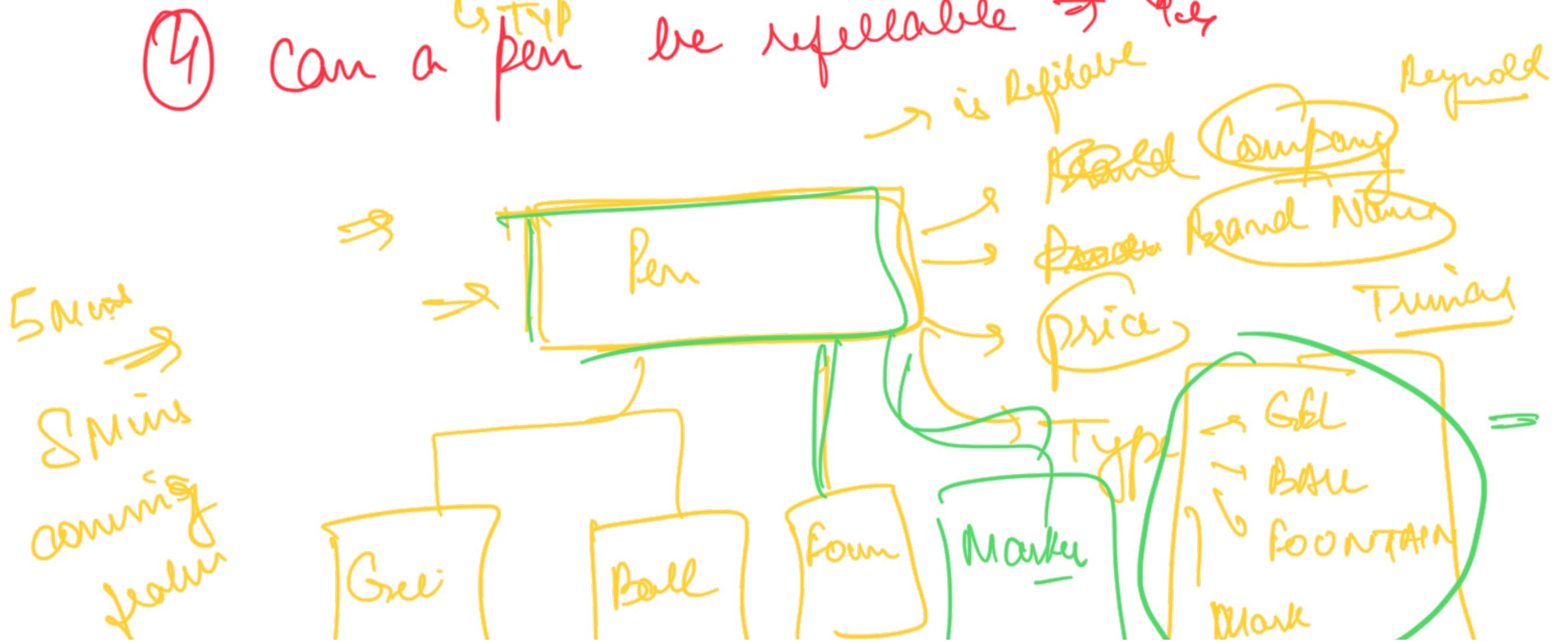
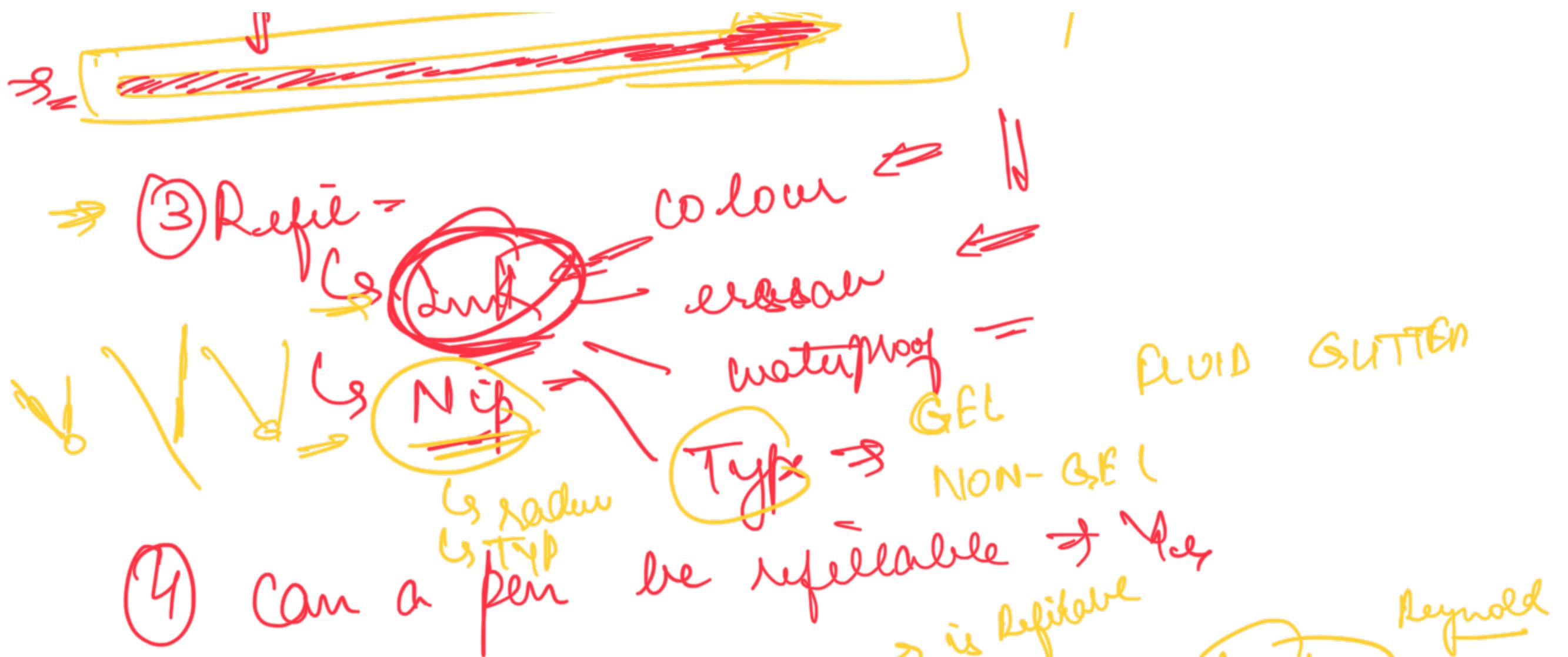


Entity



- = ① How do you Define a Pen → any thing that can write is a pen
- = ② Physical Structure of an entity =
- ② Types of Entity = Ball Pen, Gel Pen, Fountain Pen, Marker
- ③ Behaviour of different type of entities

- Q: ① Do we support pens of diff colours → Yes
- ② Grip | Non-grip
- Gel Pen → Cap | Non-cap





**Refill**

- ~~Thickness~~
- Type
- Ink

get colour()  
- amount of ink left



**Nib**

- Thickness
- type → BASE
  - Normal
  - fountain

**Tank**

- colour → GREEN
- Type → NON OIL
  - FOUNTAIN

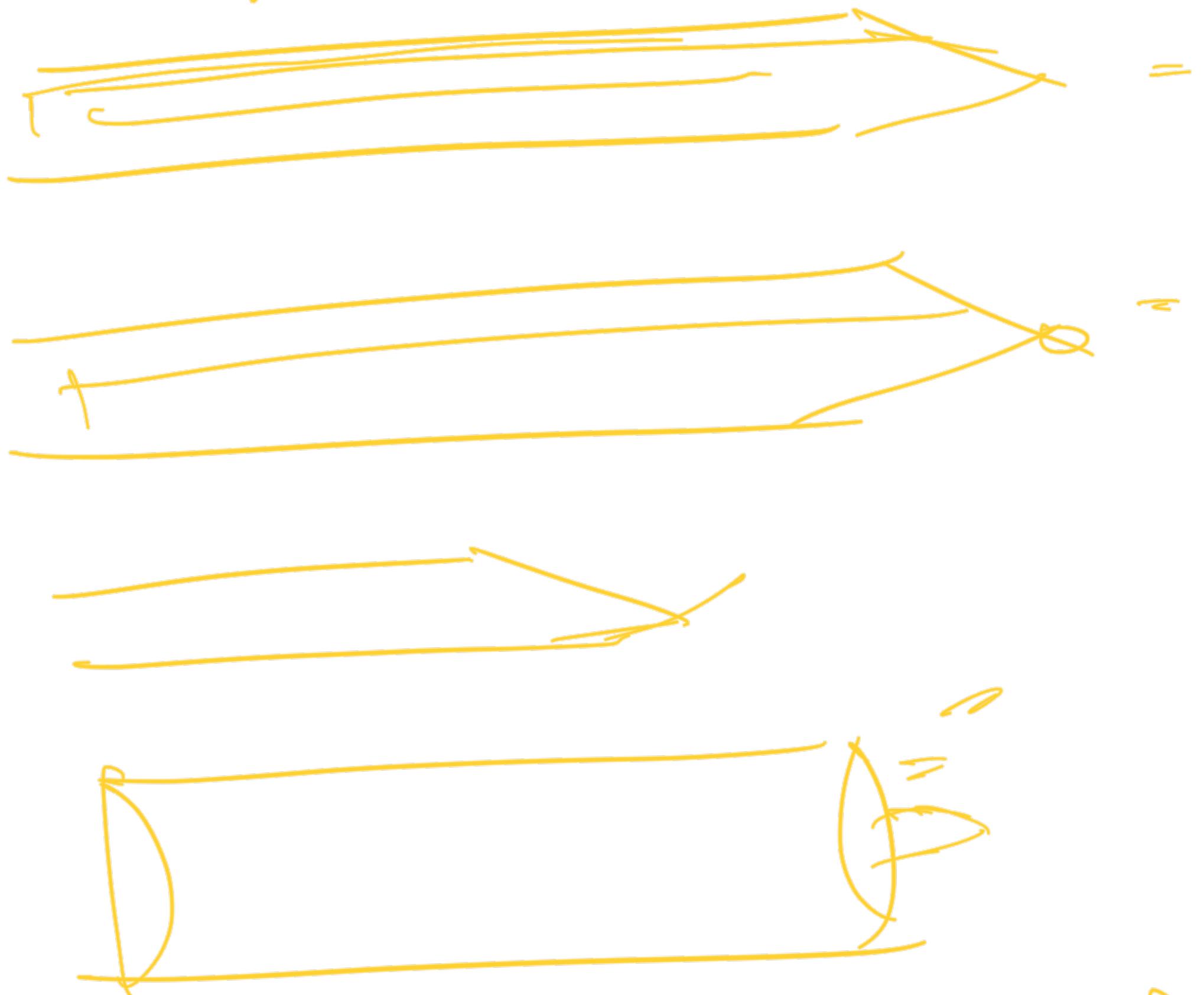
- round
- from
- erasable
- waterproof

Pen ( )  
refill ( newRefill )

3)

?

① Visualize diff types of writers



② ~~Ans~~ Go top to bottom asking about attribute

of each wiper

③ AGI about behaviour



→ SCRAP

→ FAST

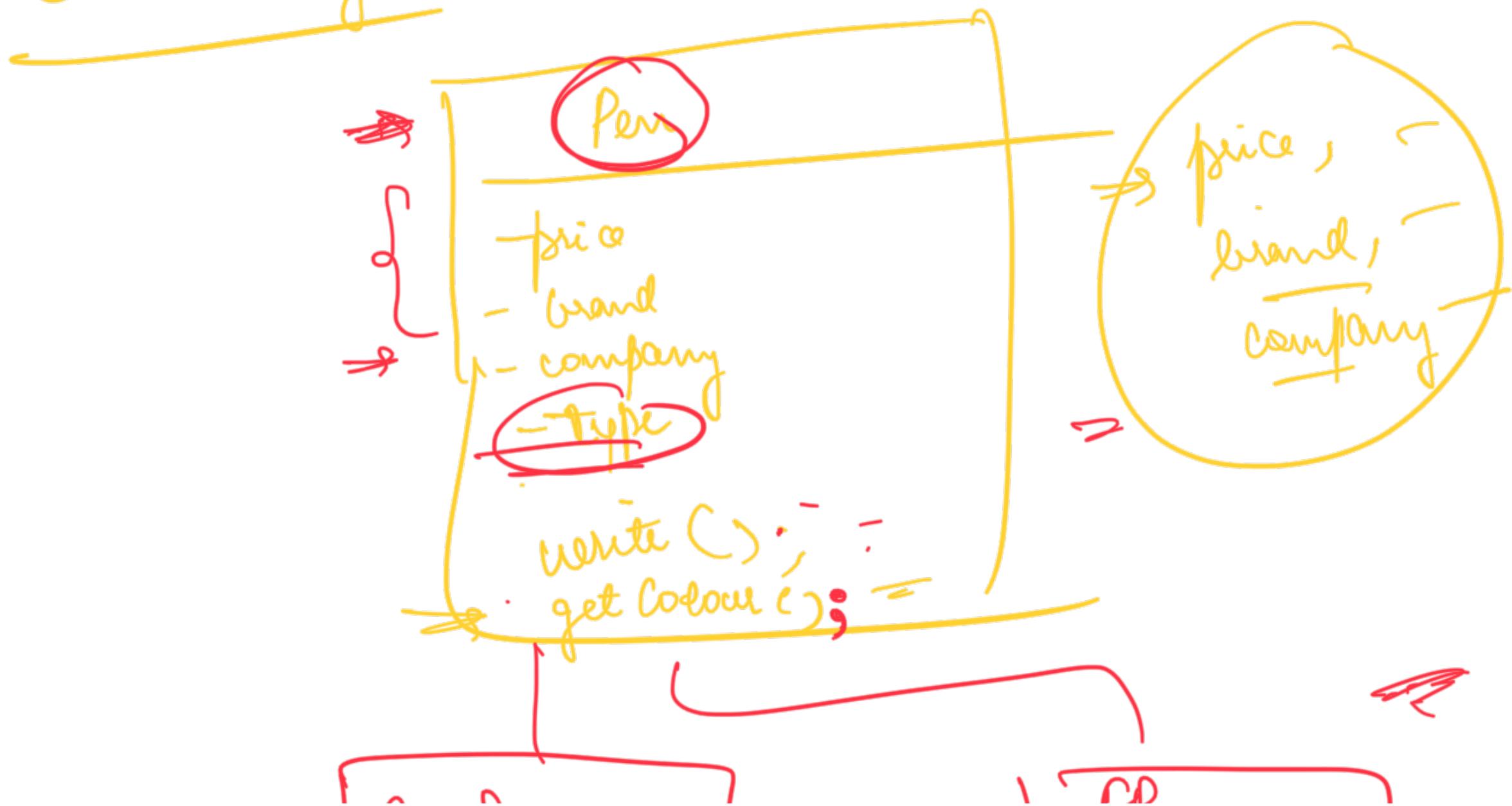


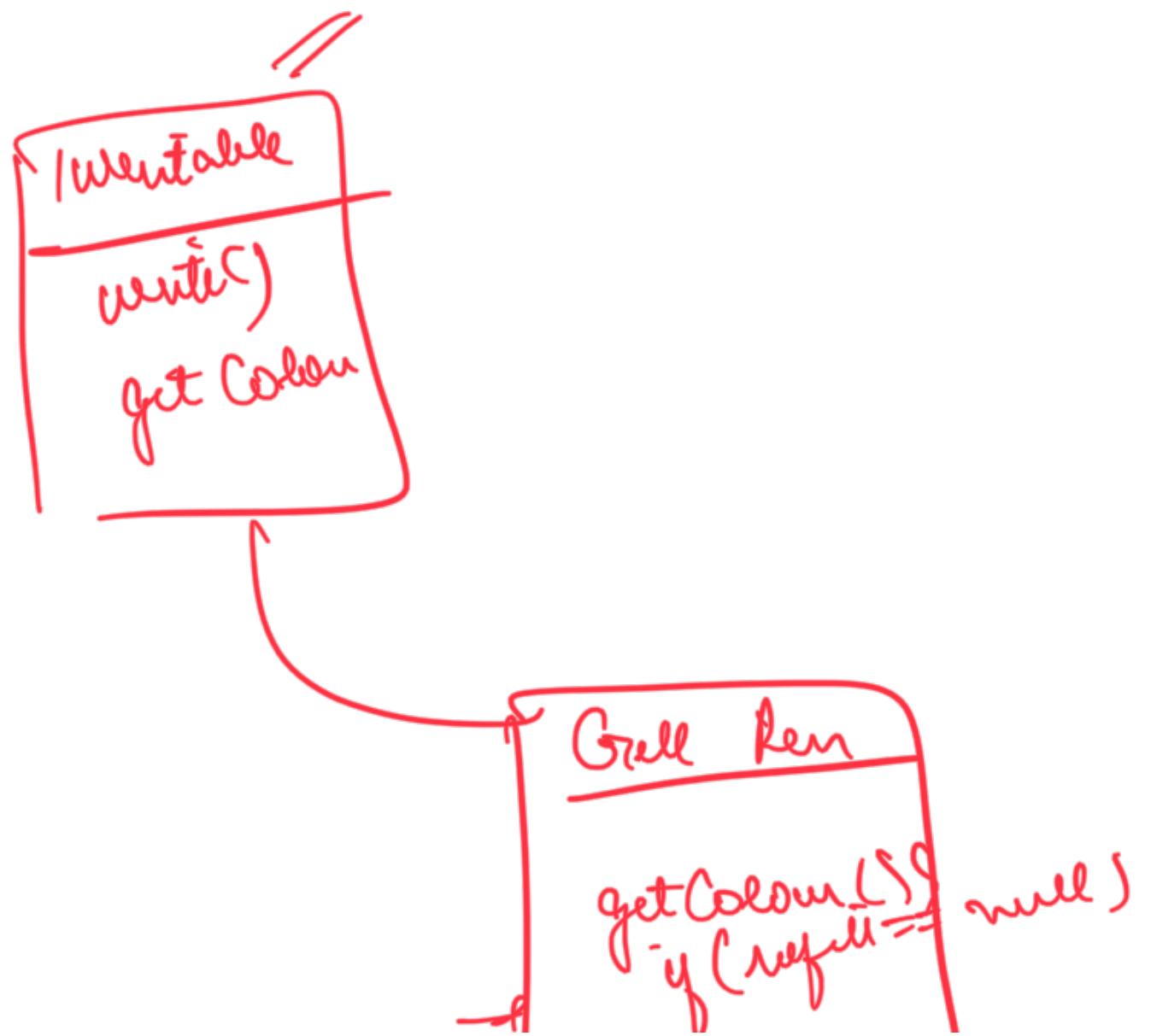
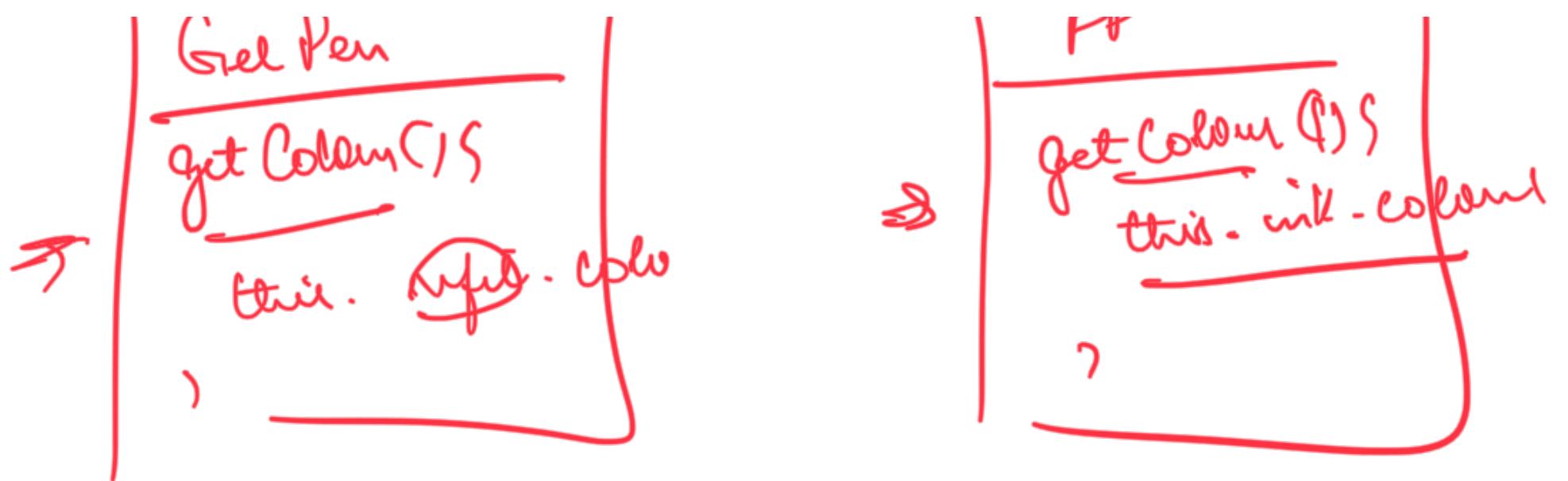
initial

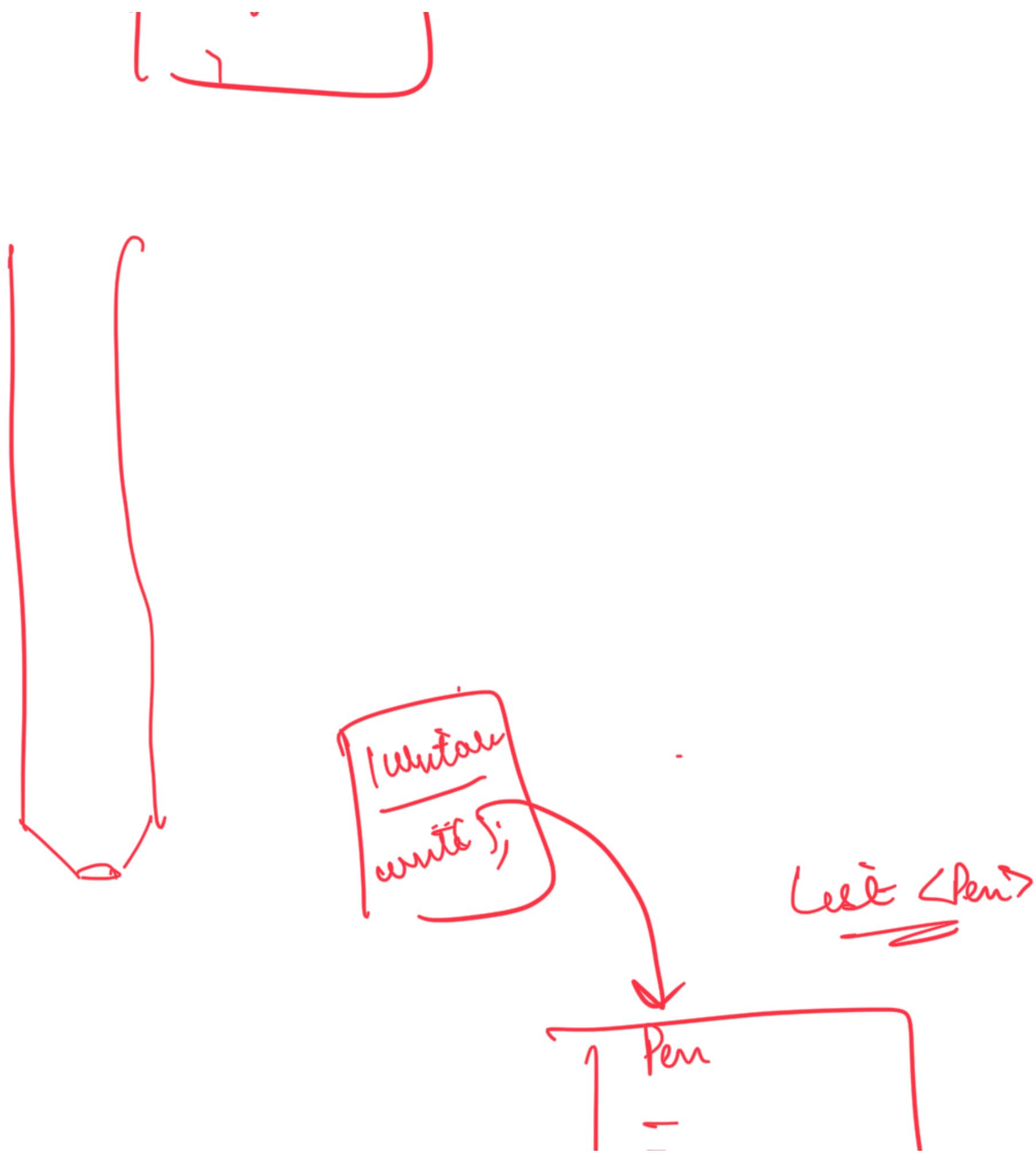
~~refine~~ →

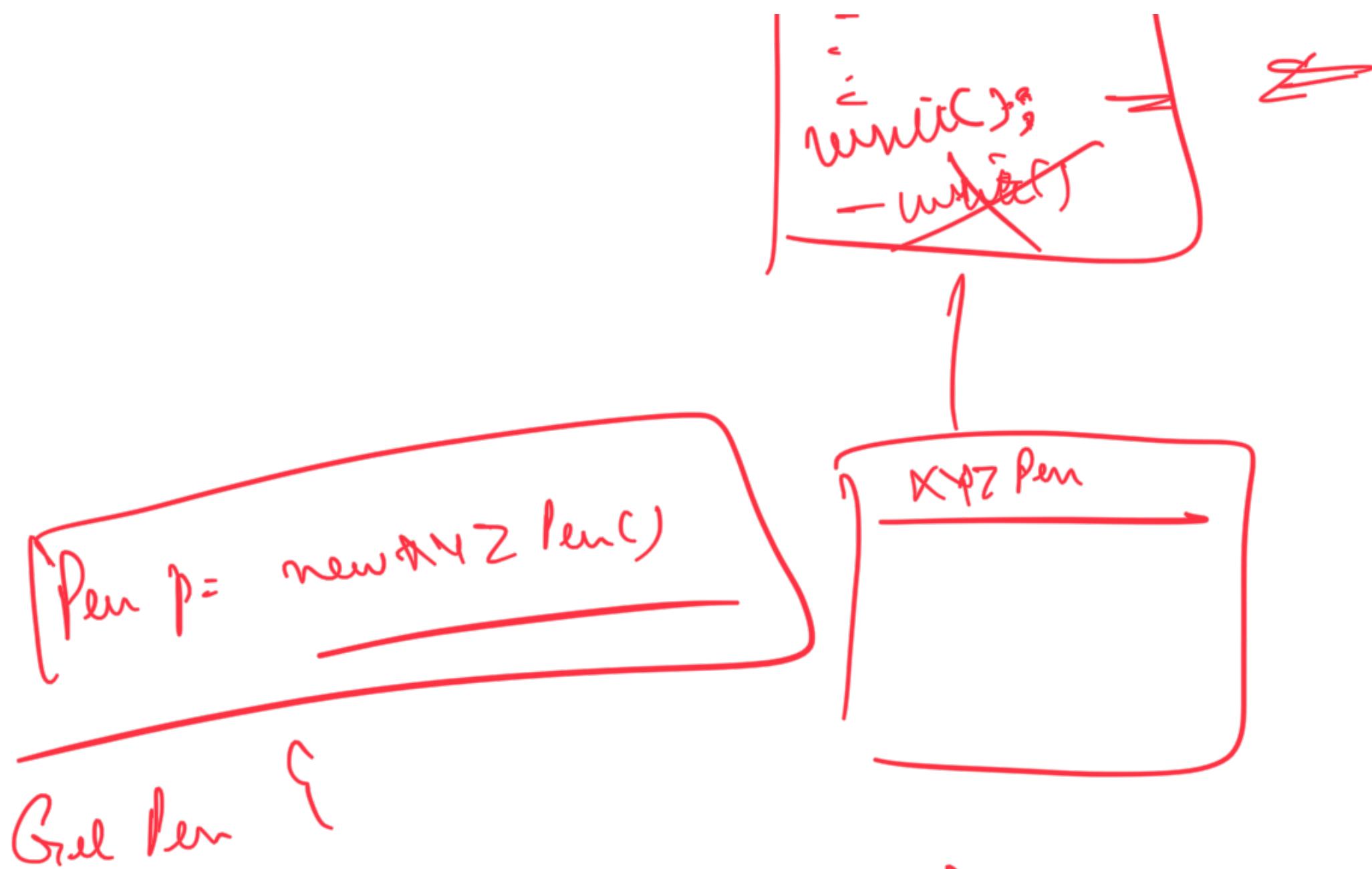


## Class Diagram





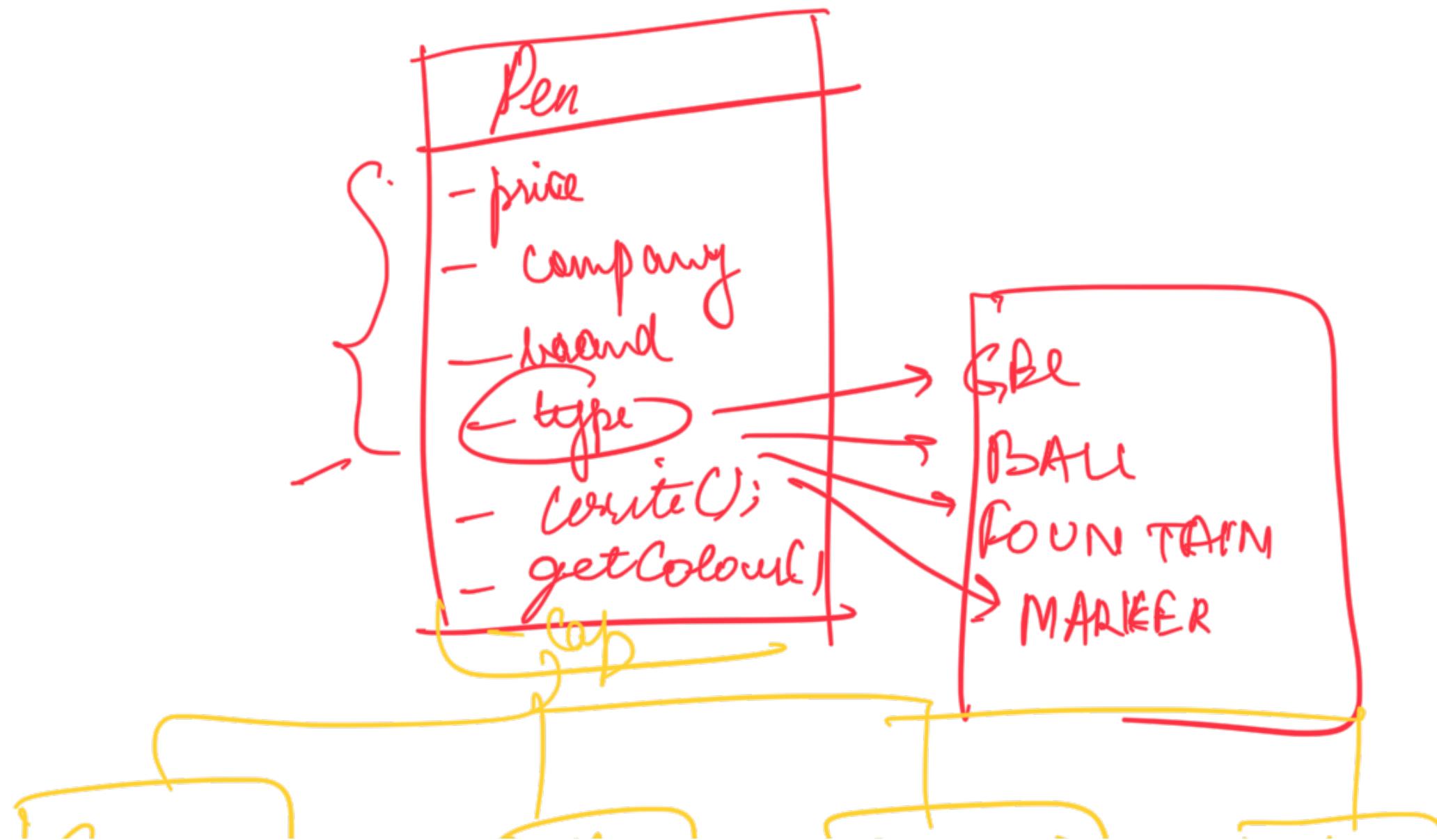


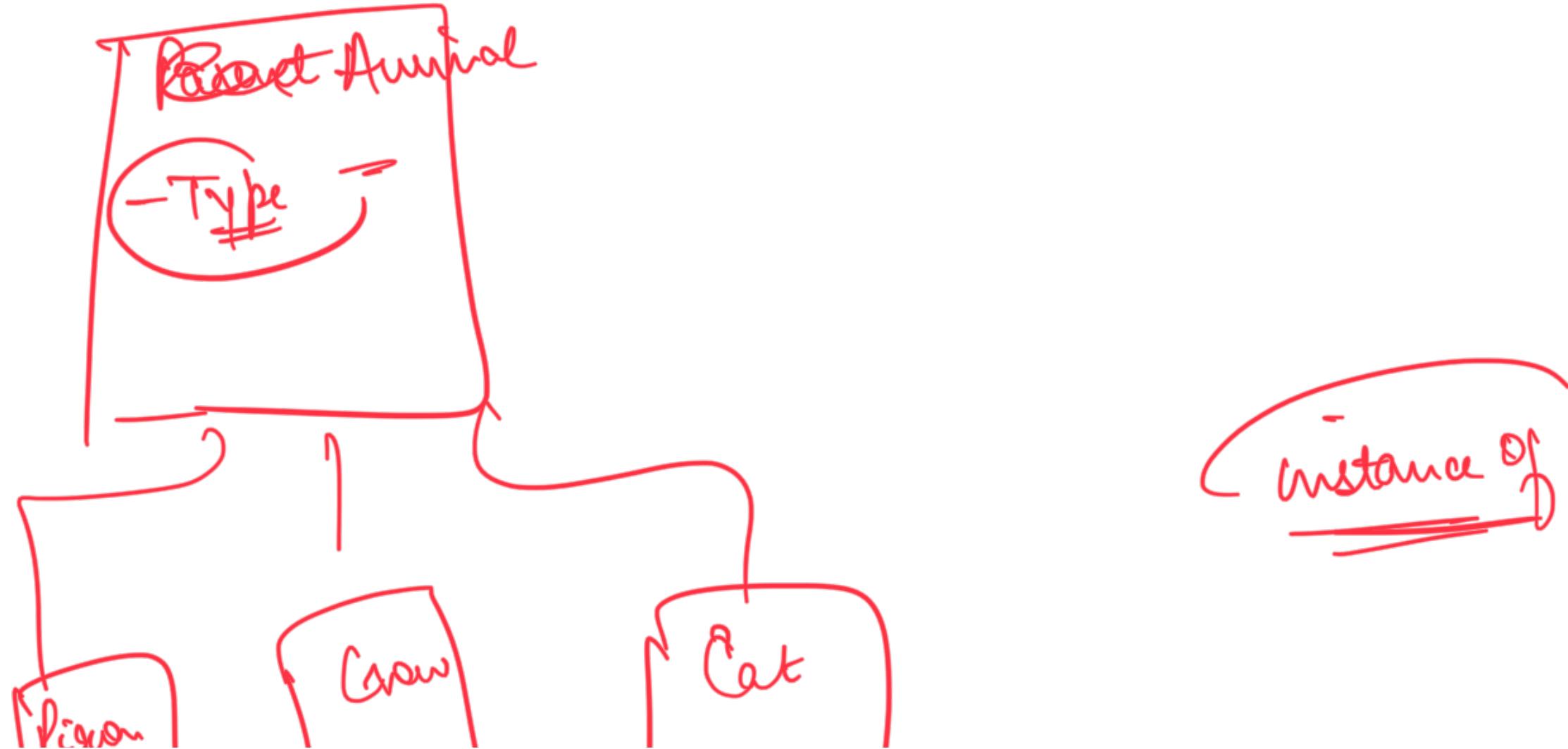


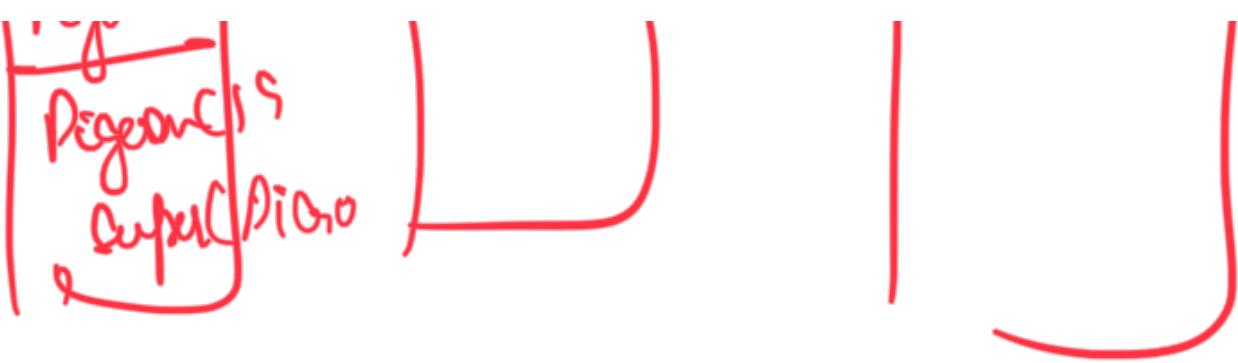
Change Refill(newRefill)  
 if (newRefill::Typ != GelPen::Typ)  
 throw Exception

use  
 $\{ \dots \}_{i=1}^n$  = new Refill

sign

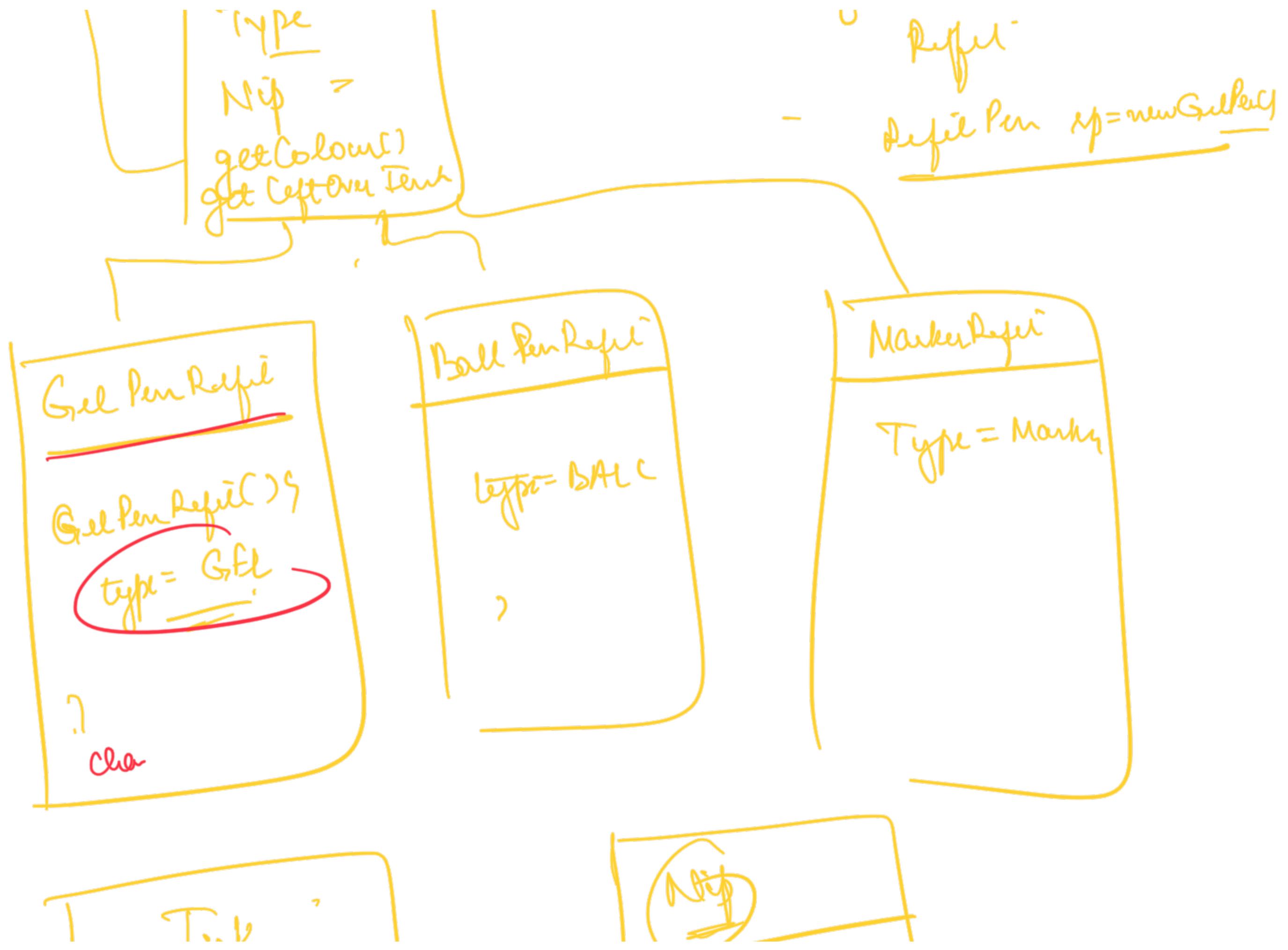


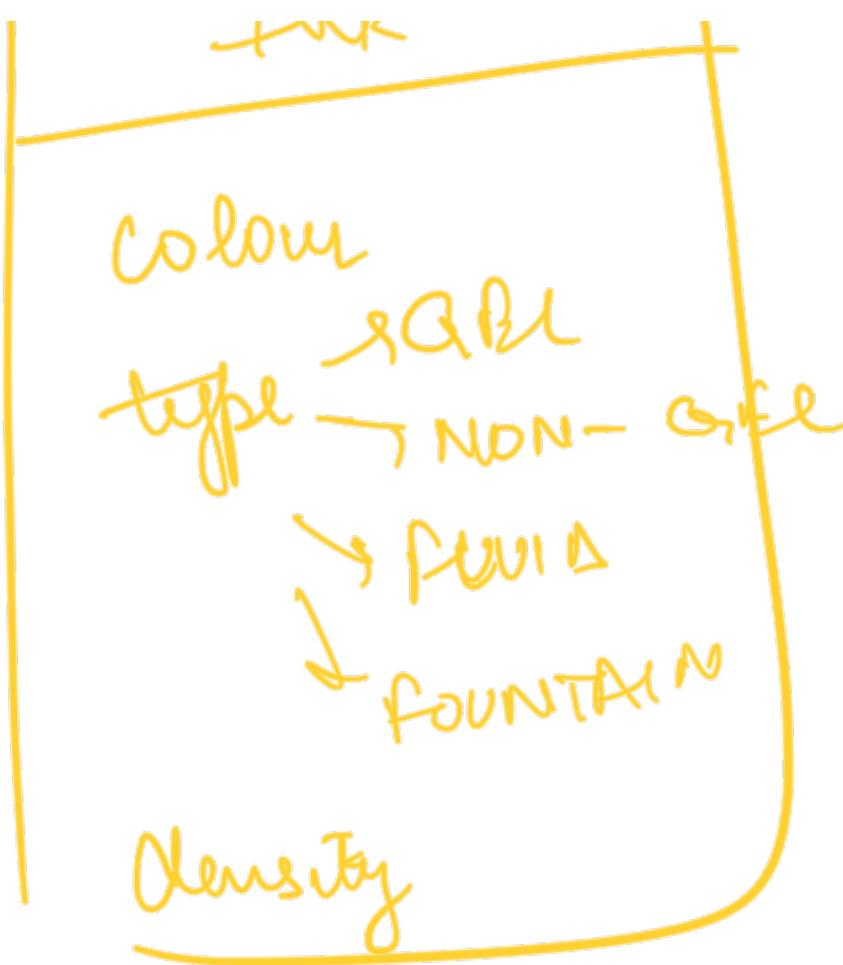






① I want to only  
get pens with a





Always include 1 creational △ Pattern

Factory ✓

PenFactory · create GEL Pen()  
 · with Nip()

Builder ✓  
Prototype ✓

- with Ink()
- with Refillable Property();

Pen Factory - Create Gel Pen()

- with Refill()
- with Refillable (true/false)
- build()

Pen Factory - Create Ball Pen()

- with Refill( — )
- ...with Refillable (false)

1

- lenselc(); // validate + user

Gel Pen p = new Gel Pen()

p. Set Refill (-)

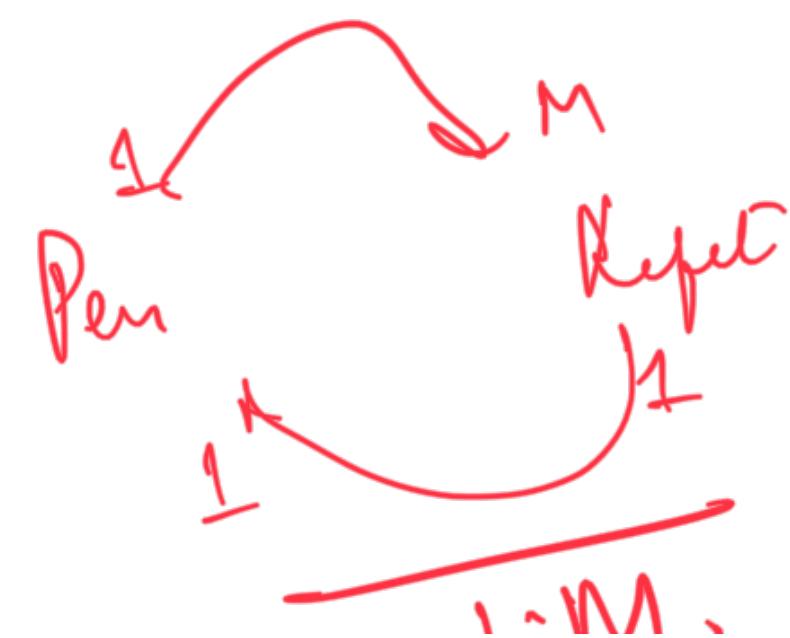
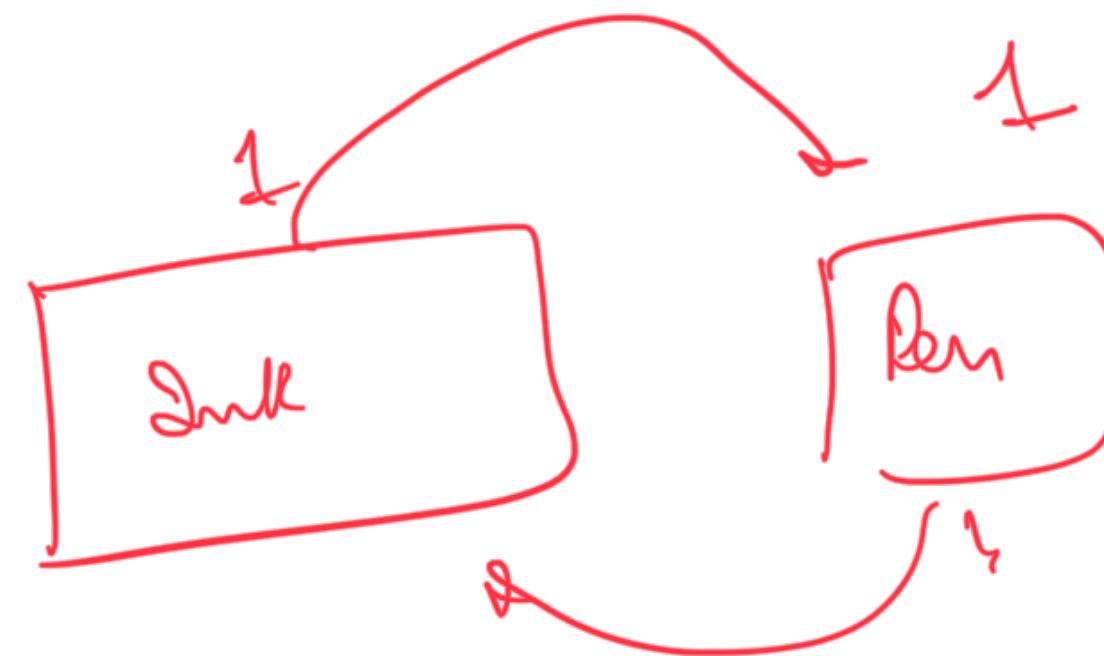
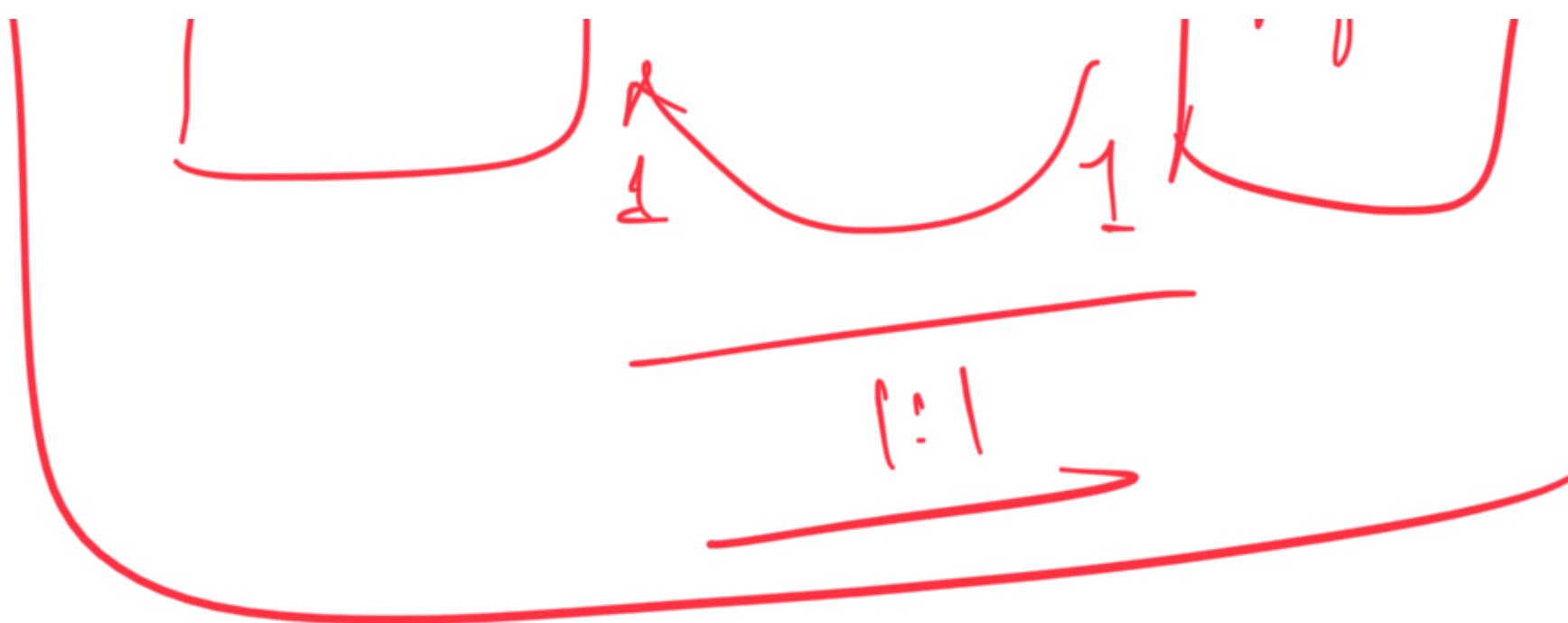
p. Set Refillable (false)

2

PenPen

Refill

1



✓-✓+

