LLD - Design a pen

1. v4 of Rescaler

- - - - - - - -.

2. Approach Design round

3. Design a pen

   - requirements
   - class diagram
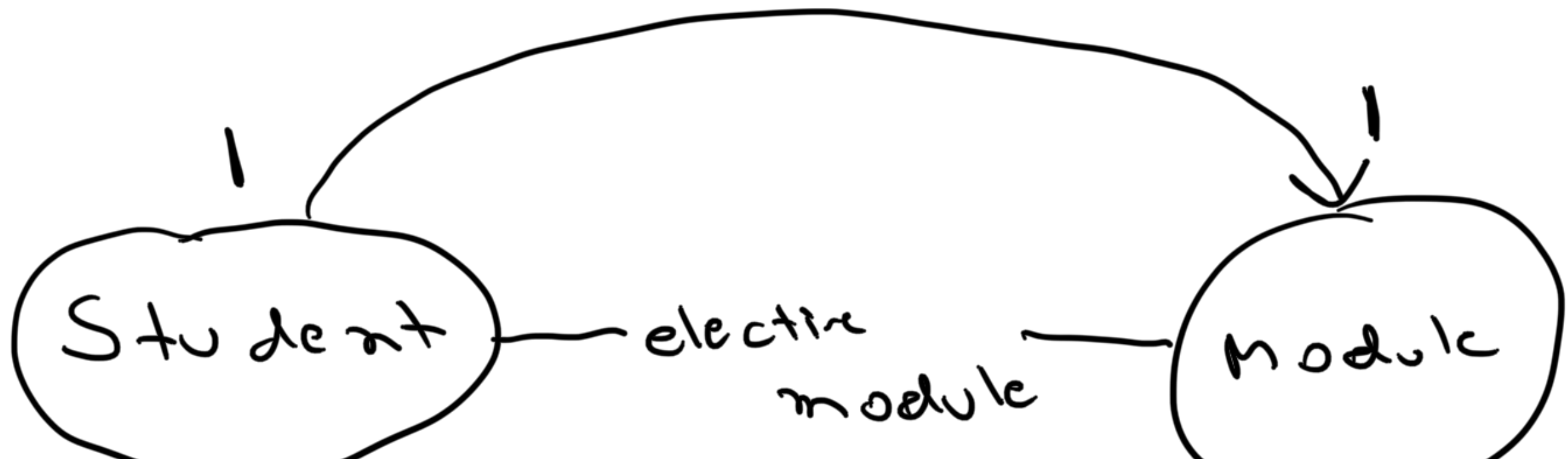   - code

Entity → Pen → Amazon
                → Tech MNCs

Games - Tic Tac Toe
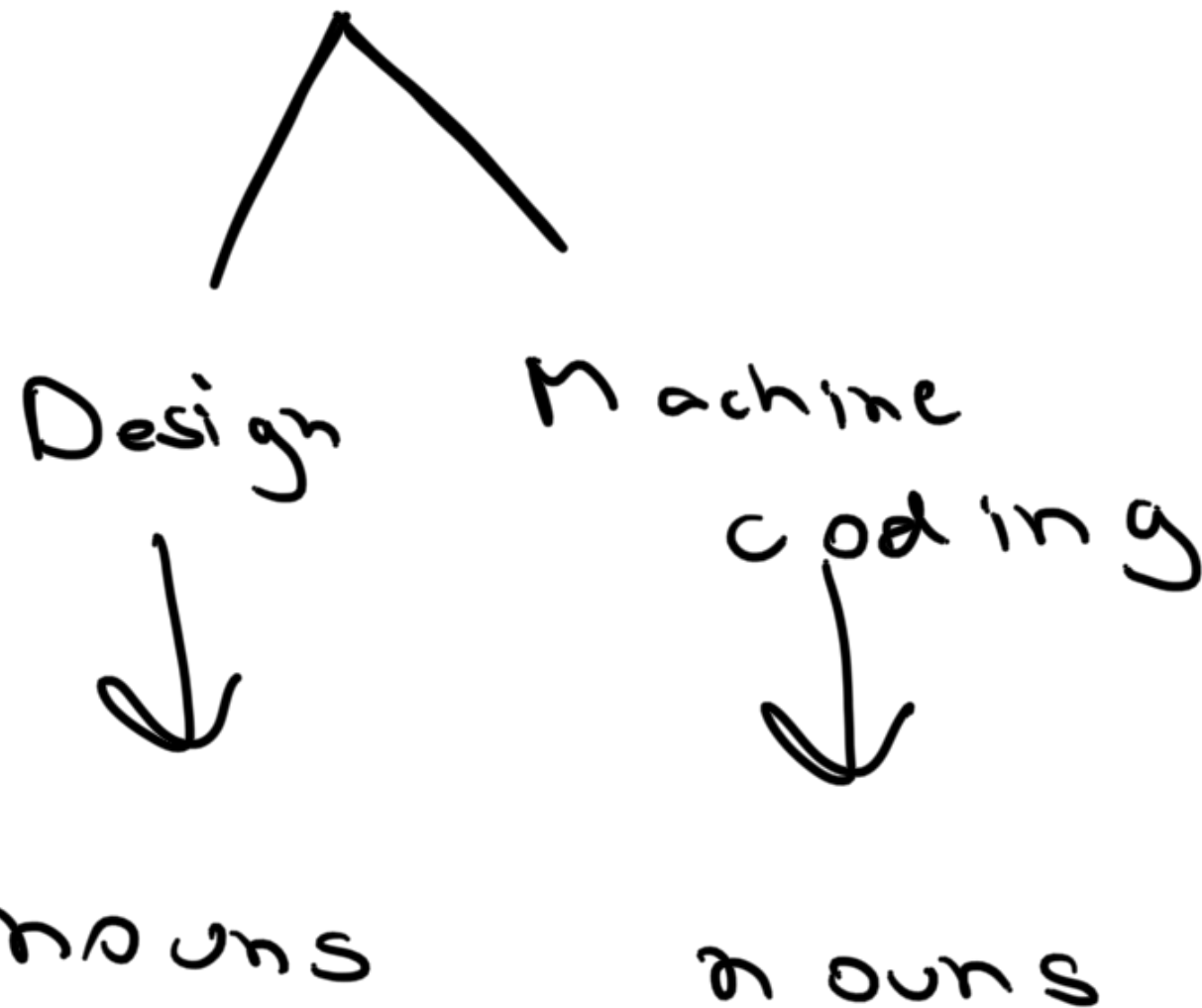___

Management Systems
___

Distributed cache
___

```
         _____
        /                   \
       |                     ↓
       |                     |
   I   |                  I  |
  _____        _____
 /            \      /            \
|  Student     |----|   Module     |
|              |--electire--|       |
 _____/    module   _____/
```

Student ---- electire module ---- Module

M

M   I

M   I

M : 1

→ Use ease

→ Class

→ Schema

LLD

Design   Machine coding

nouns   nouns

Design ⟶ Design a pen

MC ⟶ requirements

Design a pen

→ Context / overview
  → Software system
  → Simulate entity

→ Ask questions

→ Anything that can write is a pen

① Different types of pen
  — Ball, Gel, Fountain
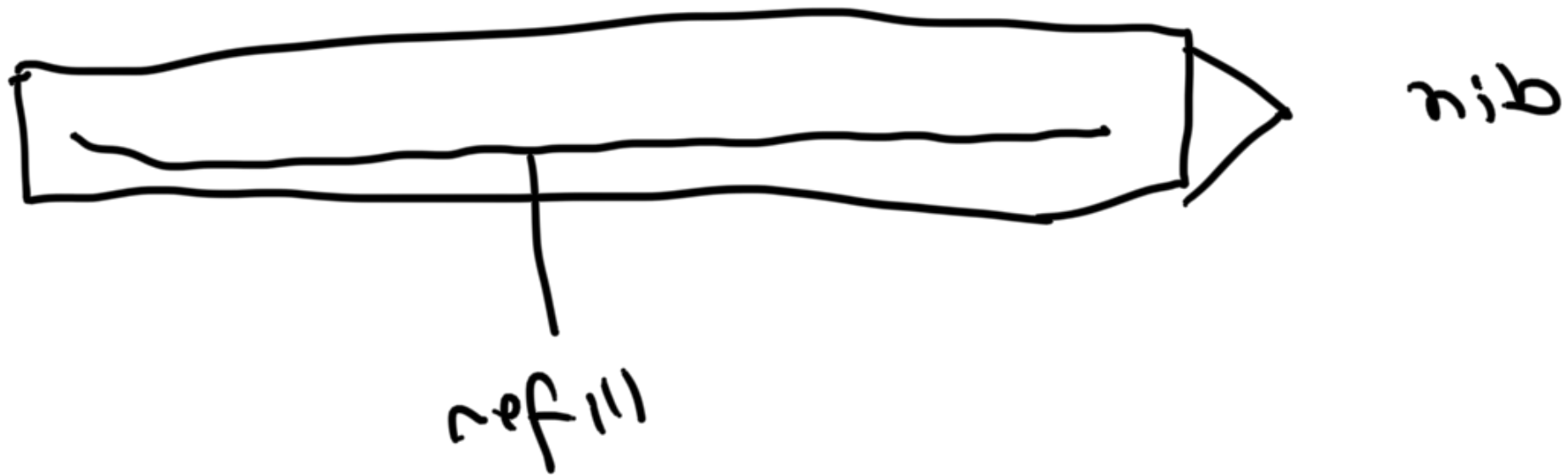
② Digital / software?

    — <u>No</u>

③ A pen can have different

    ink colours

④ <u>Refill</u> → ink

⑤ All pens except fountain

    will have a refill

⑥ Pen has a nib

nib

refill

9 Ball pen → ball pen refill

Gel pen → gell pen refill

1 Current requirements

— Pen → refill

→ not all pens h are refill

2 Future

③ Behaviour

- write → different writing
  behaviour

- refill → not every pen
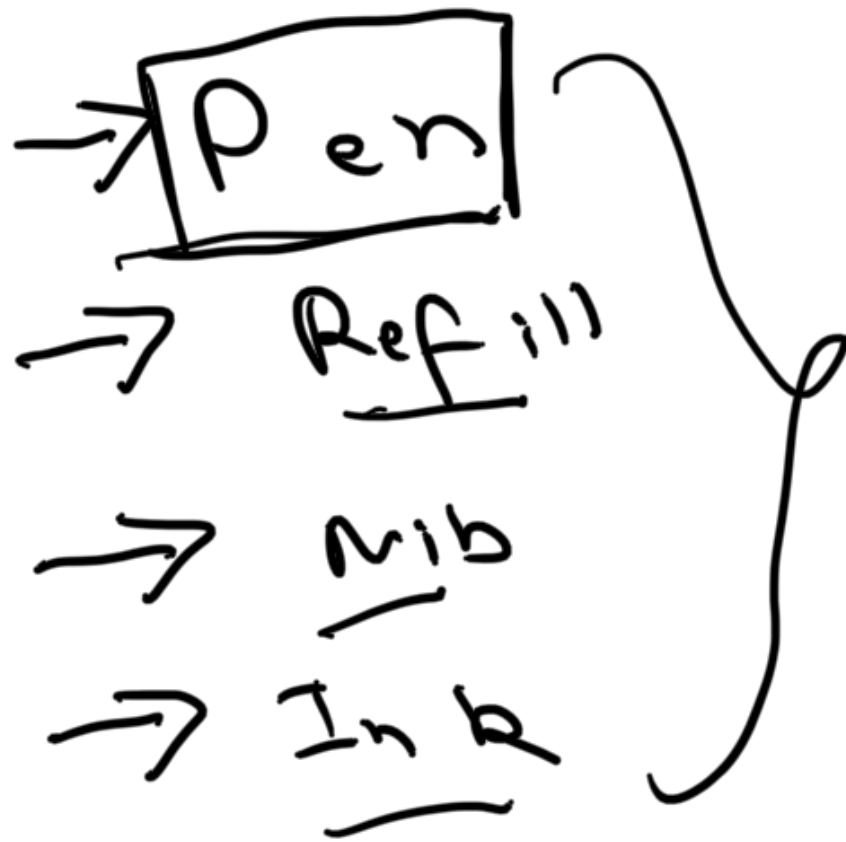 is refillable

5 - 10 mins

$$6:04 - 6:08$$

$$- 10:38$$

LLD
↳ implementation
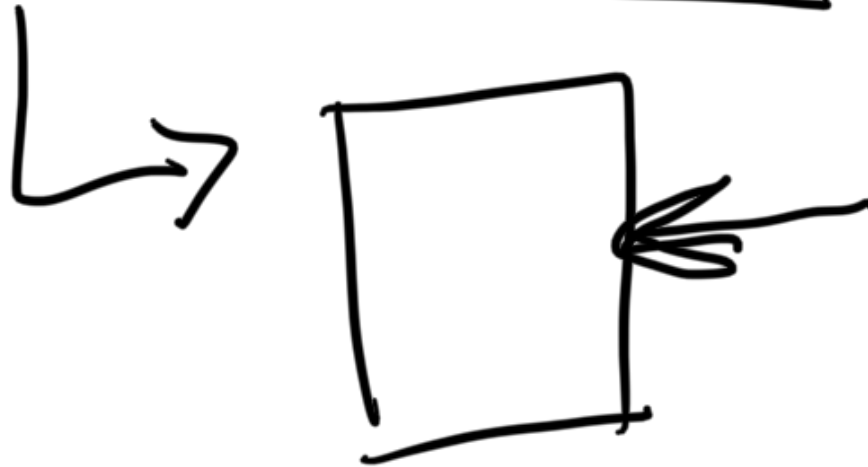
CODE ——— Behaviour

Structure   implement

Pen - Class diagram

Pen

Refill

Nib

Ink

Pen Type

- BALL
- MARKER
- FEL
- FOUNTAIN

* All pons write

* Some pons write differently }

* Some write the same

Behaviour → some pes same

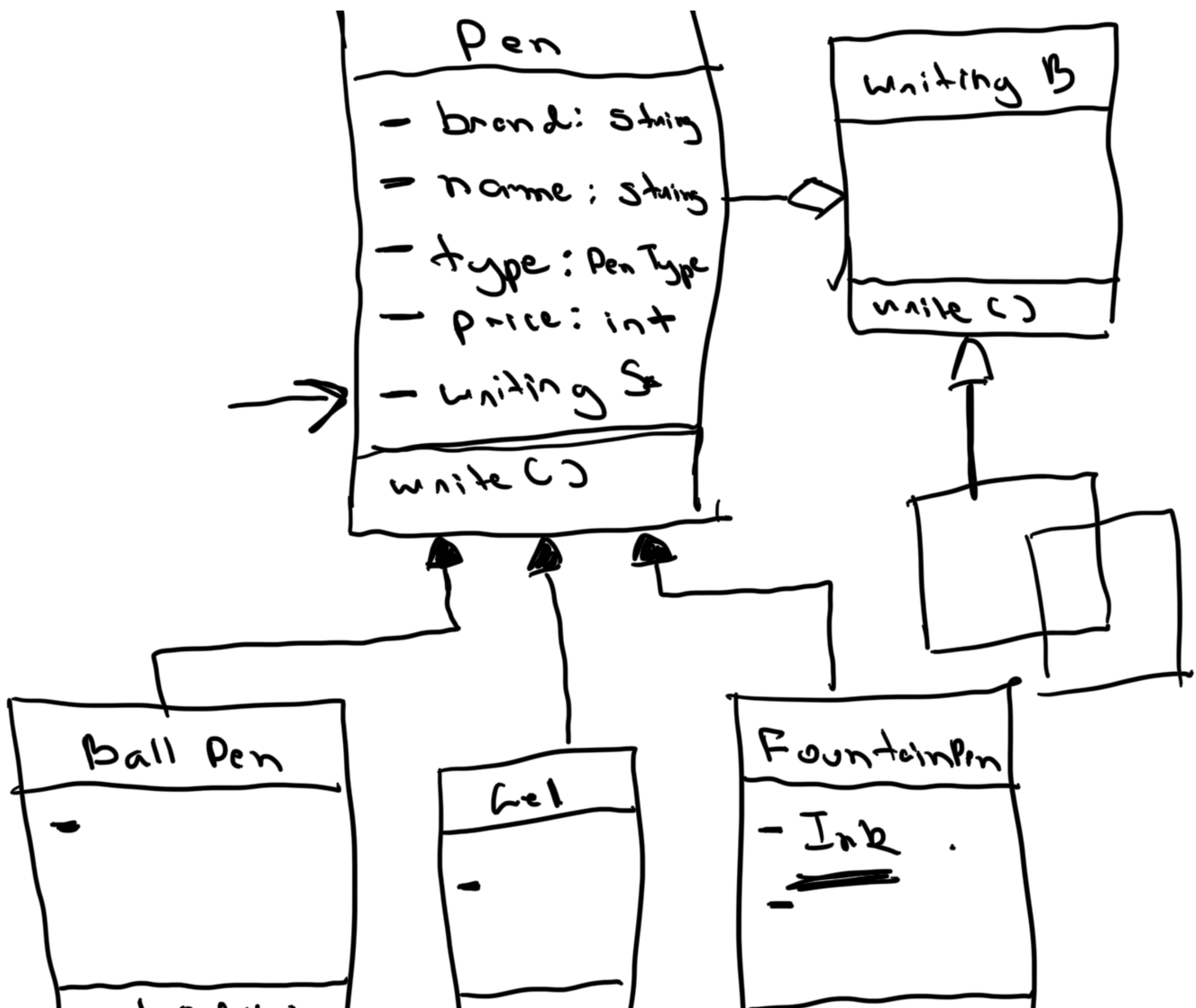→ some pens h are
different behavior.

① | Common utility class | — strategy

Writing Beh.

+write()

Smooth

Pen

- brand: String
- name: String
- type: PenType
- price: int
- writing S

write()

Writing B

write()

Ball Pen

-

Gel

-

FountainPin

- Ink
-

get Refill()

new GetRefill()

Refill Pen

- refill (C);

- get Refill()
  : Refill

Refill

- type : RType
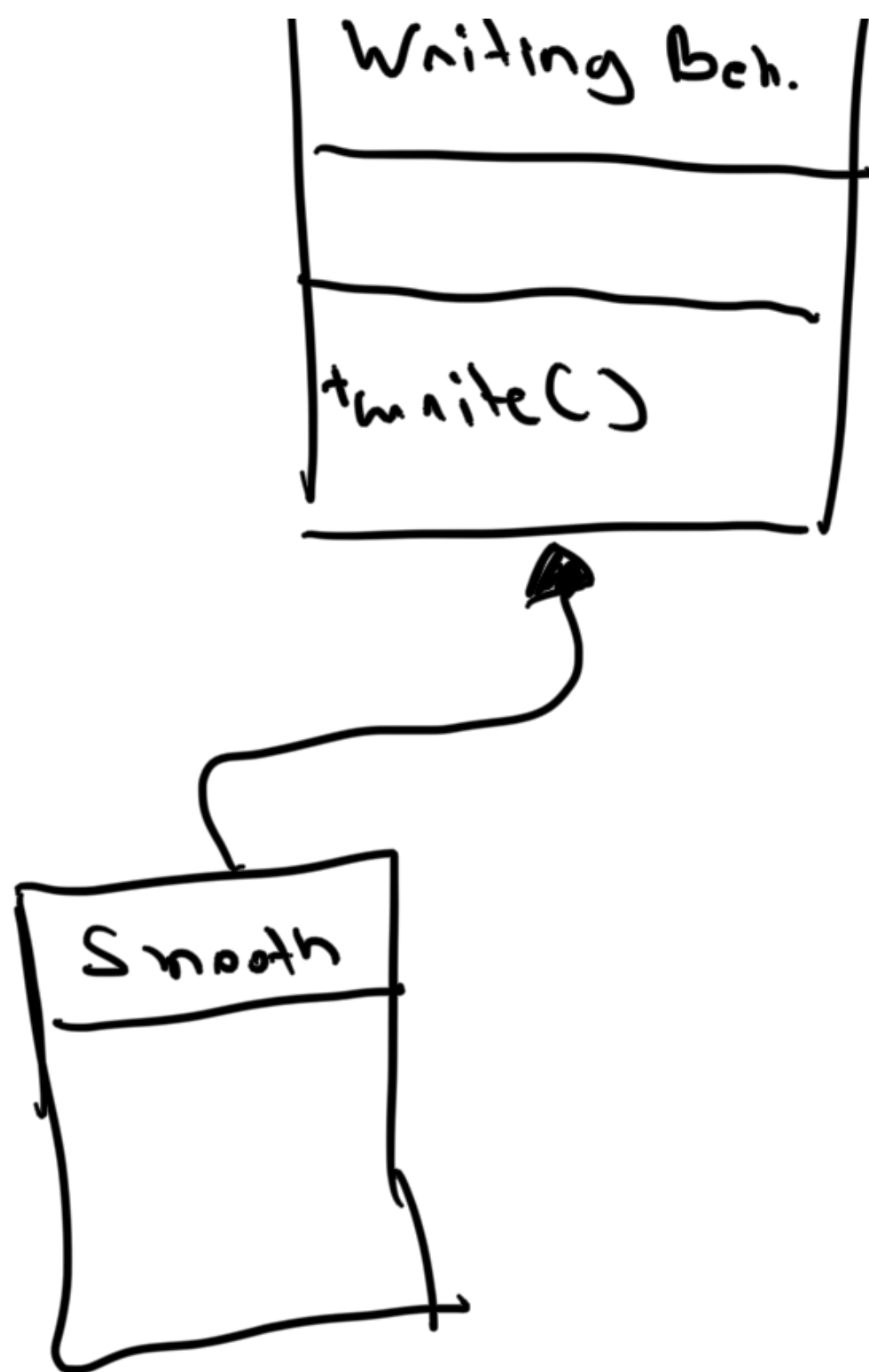
```
┌─────────────────────┐
│ ─ ink : InR         │
│                     │
│ ─ nib : Nib         │
│                     │
│                     │
└────────┬─────┬──────┘
         │     │
    ┌────┘     └────┐
    ◇               ◇
┌─────────┐   ┌──────────────┐
│  InR    │   │   Nib        │
├─────────┤   ├──────────────┤
│ ─ color: S  │ ─ radius : Int │
│             │                │
│ ─ brand: S  │ ─ type : Nib   │
│             │                │
│ ─ type : Int│                │
└─────────┘   └──────────────┘
```
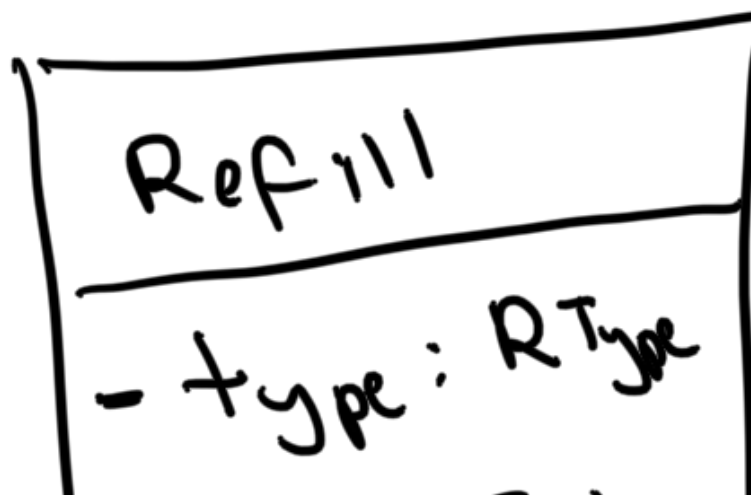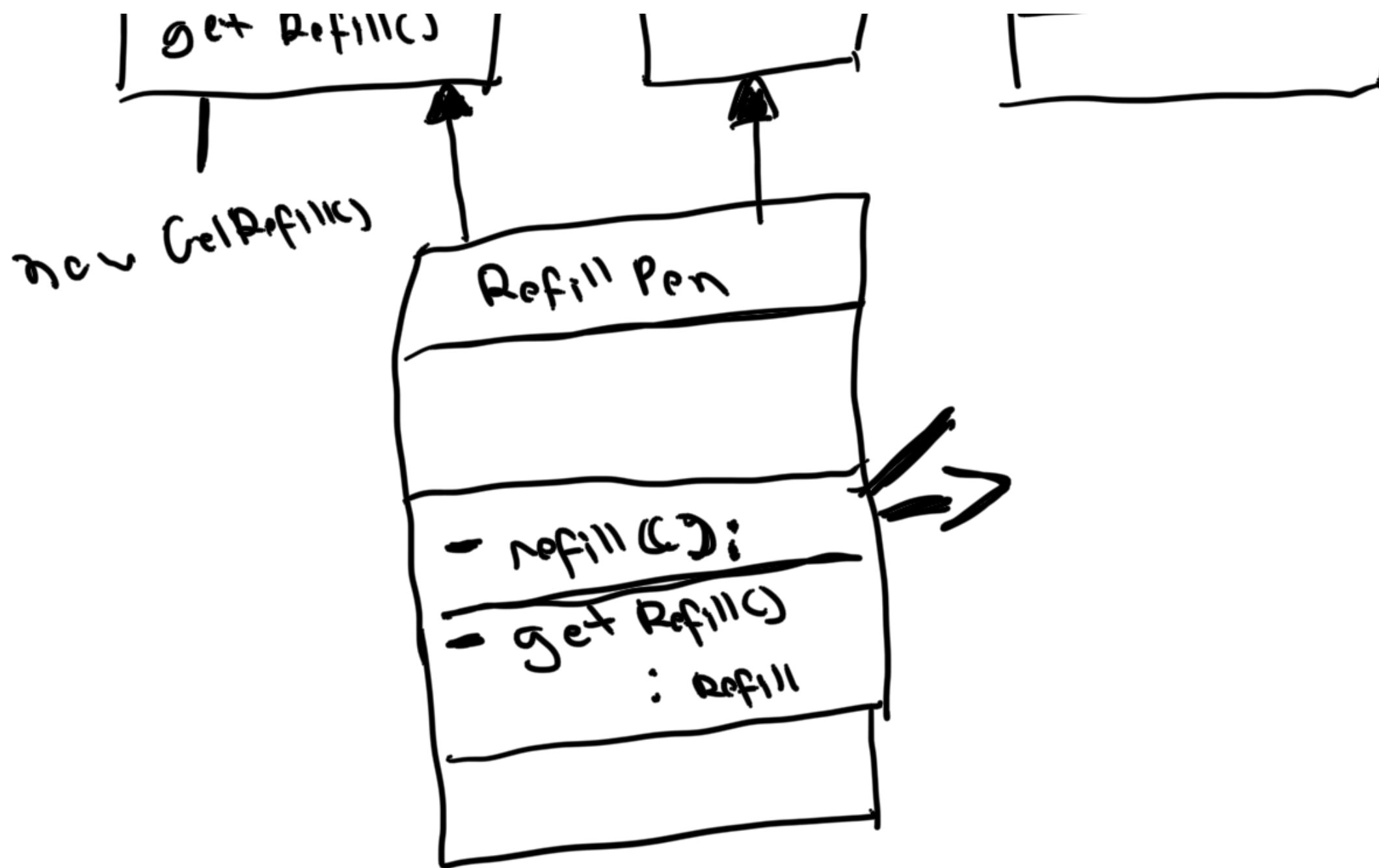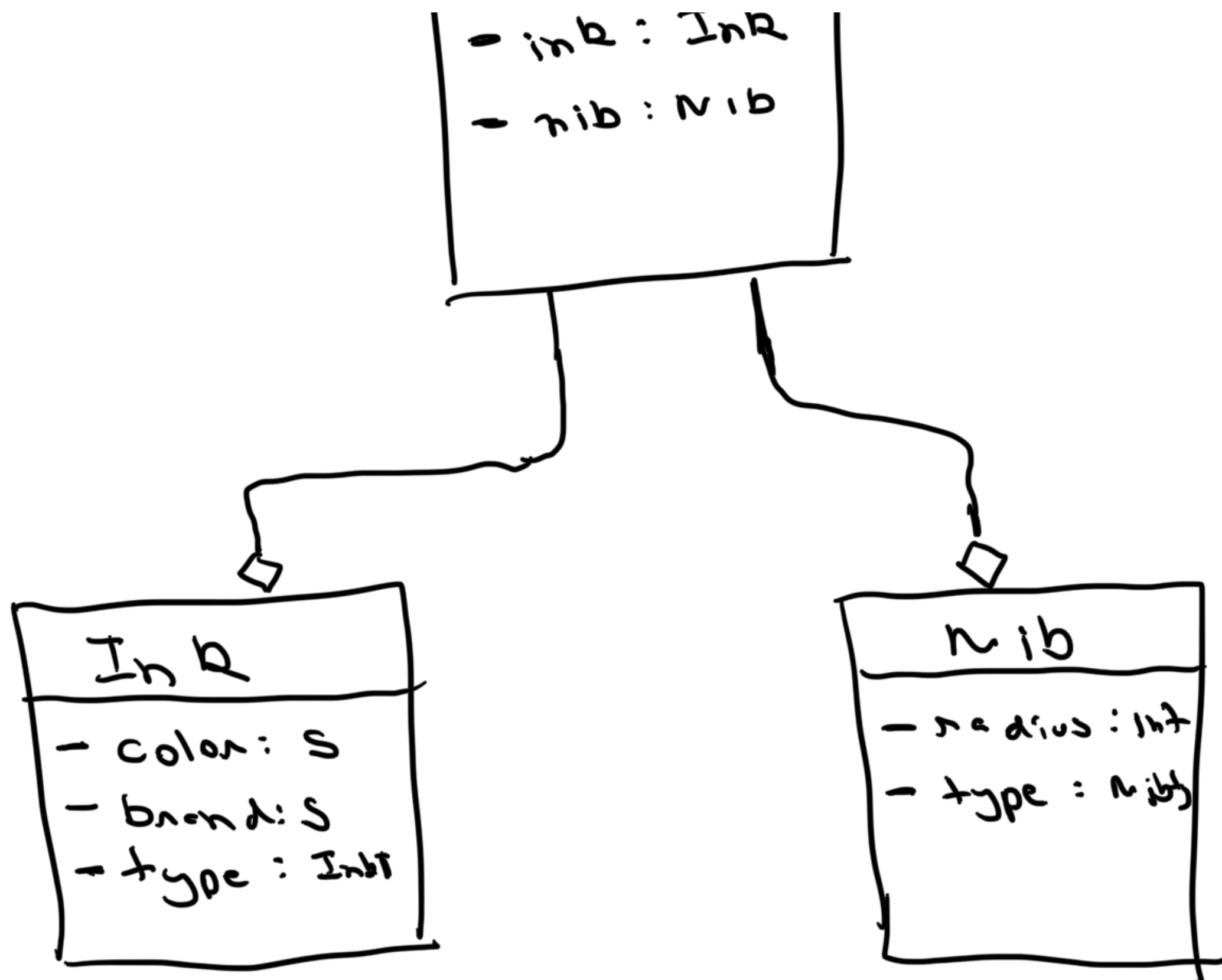
Pen $\longrightarrow$ Non refillable

$\downarrow$ $\downarrow$

              Ink

Refillable Pen

   —   Refil

   —   refil