Type of LLD/(OOD) interviews.

→ Object Oriented Design.

1) THEORETICAL.
   ↳ ~40-45 mins.

⇒ OOPs Knowledge round.

⇒ Big MNC's.
   (Amazon | DE Shaw | Arcesium | JPM . . . .

⇒ Theoretical questions abouts OOPs.

2) DESIGN ROUND. (~45 mins).

→ Problem Statement (Case study).

⇒ NO Working Code.

⇒ Microsoft | Amazon | Oracle | Walmart | Adobe . . .

3) MACHINE CODING. (~2.5 hours)
   ↳ Extension of design round.

⇒ Design round + Working code. + Discussion
   (45 mins) + (~1.5 hours)   (~15-30 min)

⇒ Top tech & fast growing Startups.

(PhonePe, Cred, Flipkart, Gojek, Razorpay, Swiggy,

DESIGN ROUND.

→ Single line problem statement. (Case study).

① Overview. ⟨ Know the System

Don't know the System

② Requirement gathering. (~5-8 core features).
↳ 10-15 mins.

③ Clarify requirements. (Edge cases).

④ Use case diagram. ⎤
                     ⎟ ~15 mins
⑤ ✶ Class Diagram. ⎦

⑥ Schema Design. ⎤ ~10-15 mins.

MACHINE CODING.

Design round + Working code.
40-45 mins   ~1.5 hours.

Kind of Systems.

→ Entity.

→ Interactive System. : No Persistence (DB).

→ Web App". → BMS.
 ↳ MVC.

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Design a Pen (Entity).

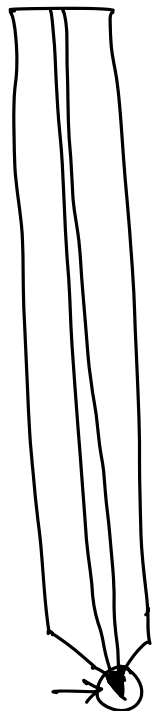→ ==Overview== : Anything that can write is a Pen.

→ Requirements
① Different type of pens. (Ball Pen, Gel Pen, fountain Pen).

② Some pens will have refil & some pens won't have refils.

③ fountain pens will directly have Ink.

④ Refil will have Ink.

⑤ Ink will have a colour.

⑥ for some pens we might be able to change the refil but for some pens we might not be able to change the refil.

⑦ fountain pens will have a Nib directly & other type of pens will have a refil & refil will have a Nib.

⑧ Nib can be of different sizes.

⑨ Ink can have features like WATERPROOF, TRANSPARENT, FRAGRANCE, ...

Behaviours of Pen

Write().

Every pen will write in its own way.

⇒ Write() method will have different implementation for different type of pen.

⇒ Strategy Design Pattern.

refill().
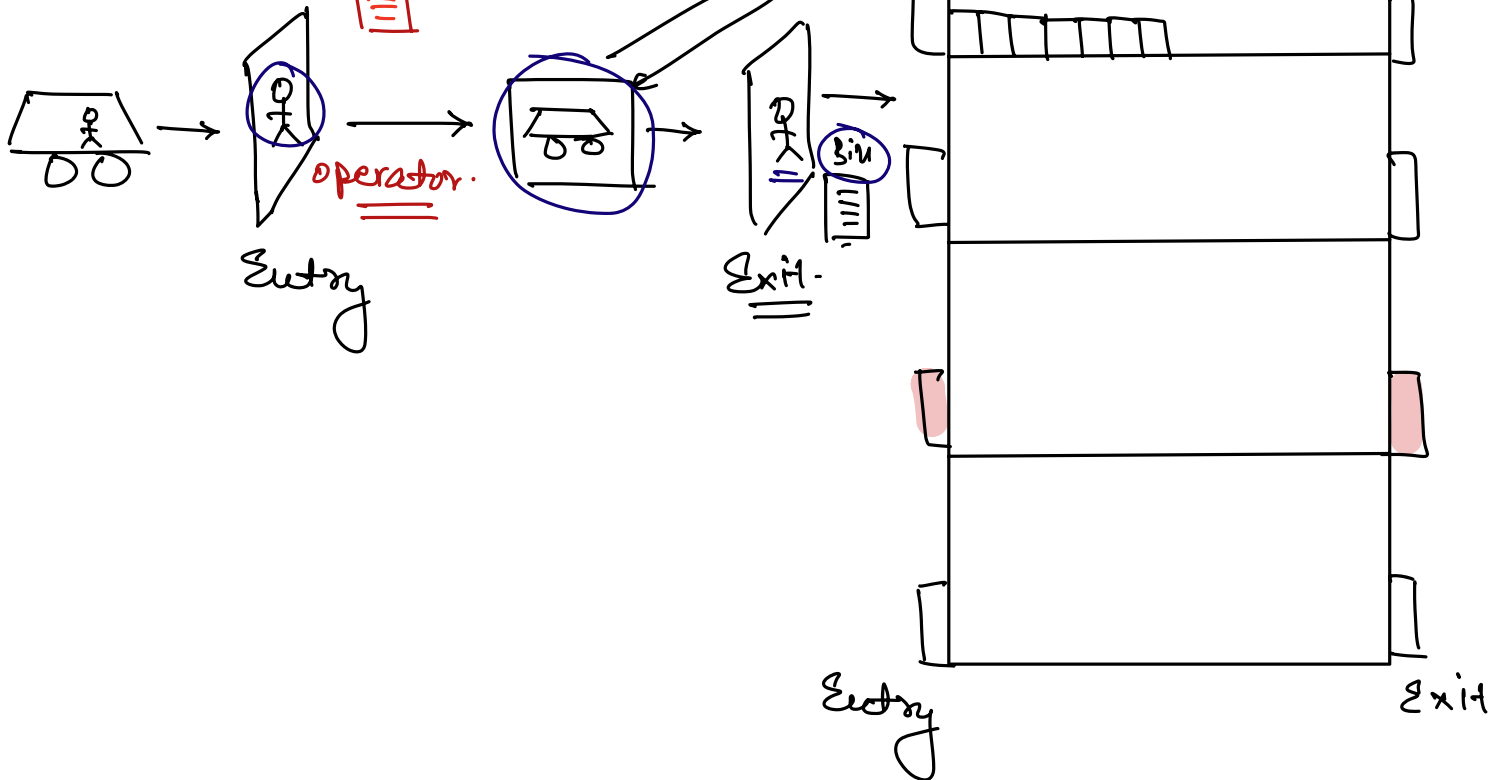
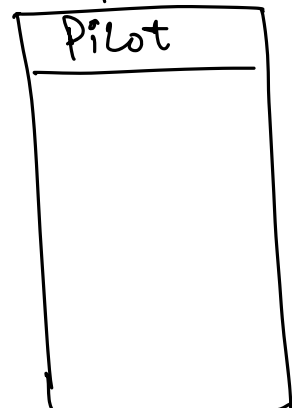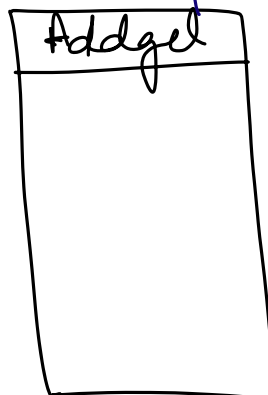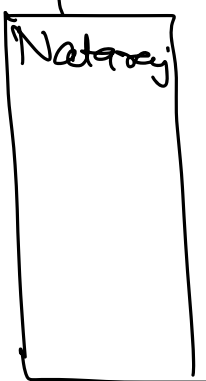Some Pens can be refilled & some Pens can't be refilled.

CLASS DIAGRAM

→ Visualisation.

→ Nouns in the requirements.

Parking Lot.

User Journey.

Receipt.

operator.

Entry

4 hrs

Bill

Exit.

Entry

Exit

Pen

name : String
brand: String
price: int
type: PenType

write();

PenType

BALL,
GEL,
FOUNTAIN.

<<Refillable>>

refill()

BallPen

- Refil

WriteStrategy
WS;

GelPen

- Refil

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fountainPen

- Nib
- Ink

**Writo
Meter**

Nataraj

Butterflow

Addgel

Pilot

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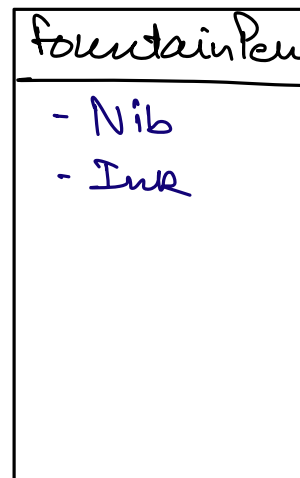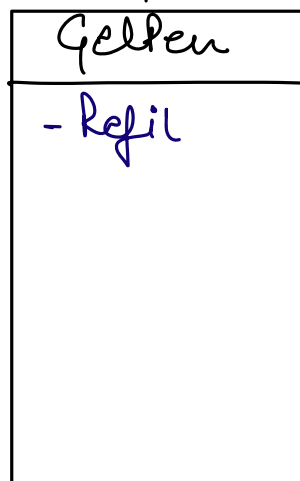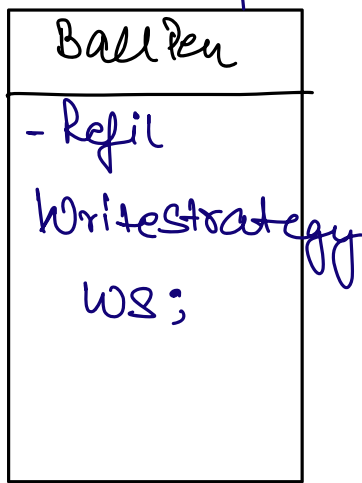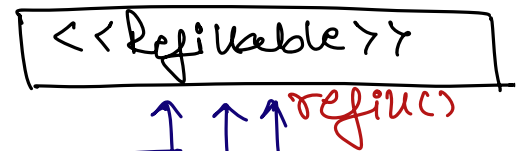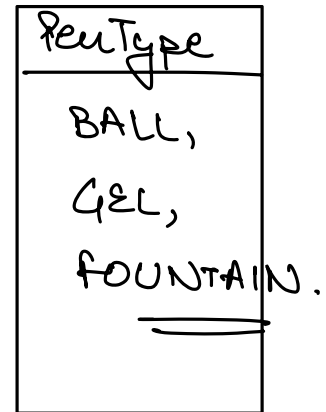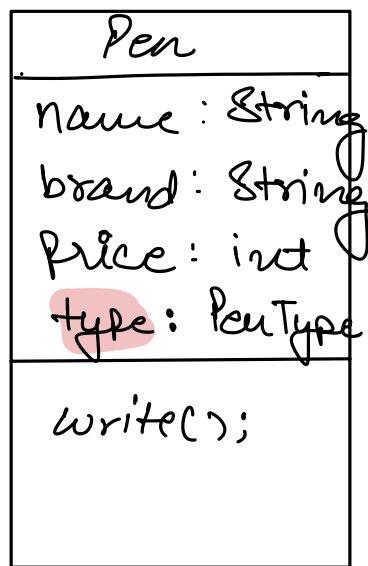
write(){

ws = new WritoMeterStrategy()
ws. write();

```
┌─────────────────┐    ┌─────────────────┐    ┌─────────────────┐
│ Refil           │    │ Nib             │    │ Ink             │
├─────────────────┤    ├─────────────────┤    ├─────────────────┤
│ Nib             │    │ - radius        │    │ - Colour        │
│ Ink             │    │                 │    │ - list<features>│
│                 │    │                 │    │                 │
└─────────────────┘    └─────────────────┘    └─────────────────┘
```

```
┌─────────────────┐
│ feature         │
├─────────────────┤
│ WATERPROOF,     │
│ TRANSPARENT,    │
│                 │
│   ───           │
│   ───           │
│   ───           │
└─────────────────┘
```

```
┌──────────────────────────────┐
│    << WriteStrategy >>        │
└──────────────────────────────┘
      ↑    ↑    ↑    ↑
```

WritoMeter
WriteStrategy

Write() <

═══
═══
═══

3

Pilot
WriteStrategy

Write() <

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═══

3

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─────────── Ink * ───────────