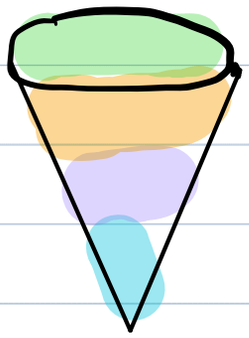
Today's agenda

- Decorator design Pattern
- Flyweight design Pattern

* Decorator design Pattern

→ Amul as ICE-Cream management System.



↳ App^n can take order of ice-cream { Cone }

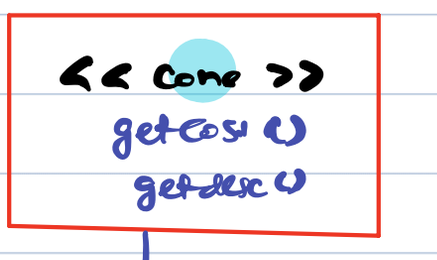
↓

Custom ice-cream create

→ Show the cost of ice-cream to user.

→ Description

SL

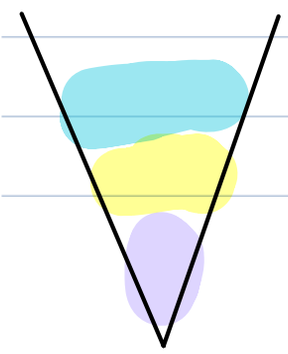


Orange · Vanilla · Strawberry

ChocoChip
getCost(){ return 60; }

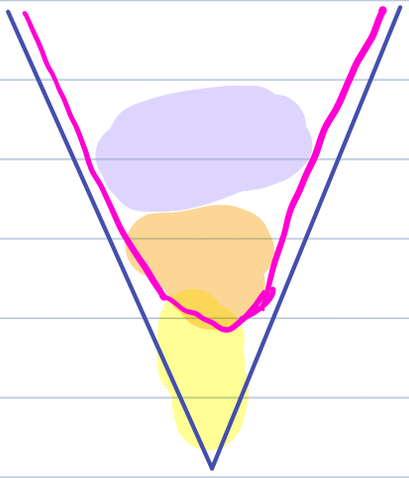
Sand Scoop
getCost(){ return 5; }

Mango ·

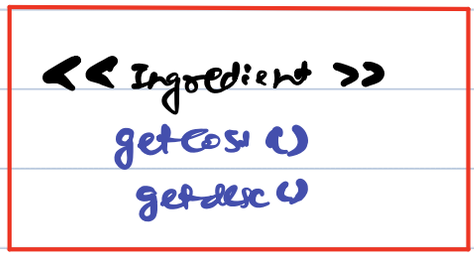


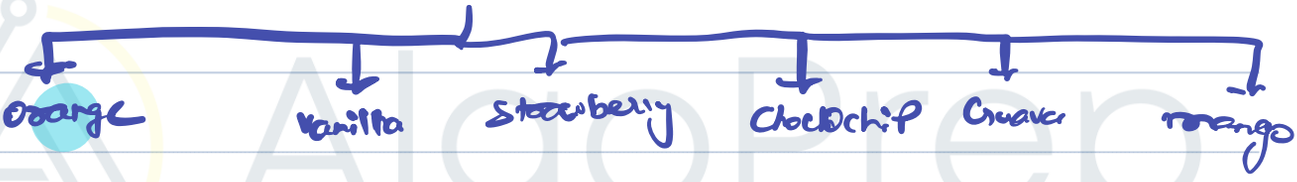
```
ICECream
List<Cone> C;      → C.add(orange())
List<Toppings> T;  → T.add(chocochip());
getCost(){
    add getCost of all the selection in the list.
}
getDesc(){
    orange + chocochip + mango - order of toppings
}
```

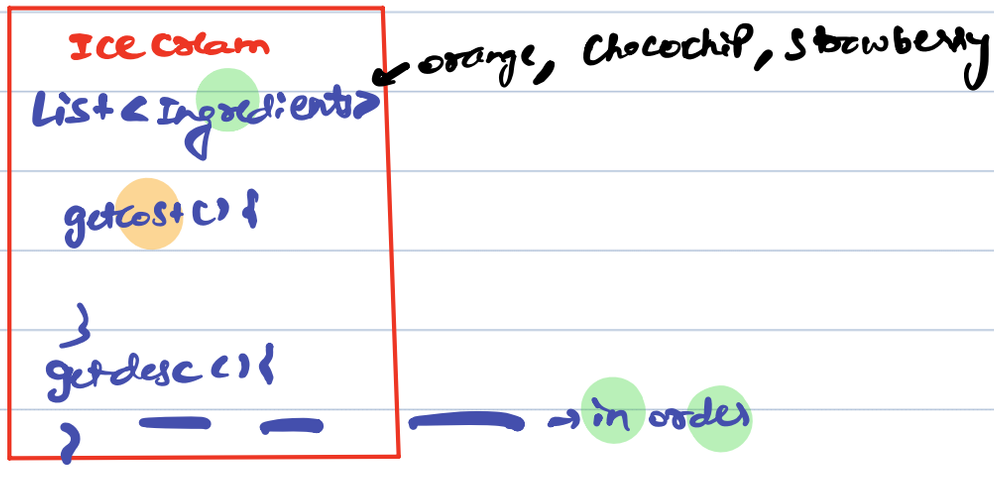
requirement



→ selection in order and multiple cones can be selected.

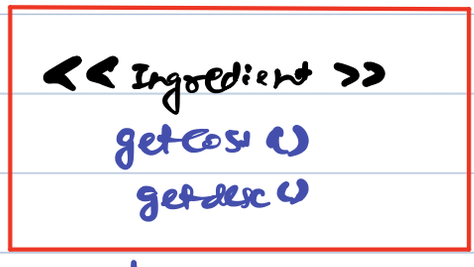


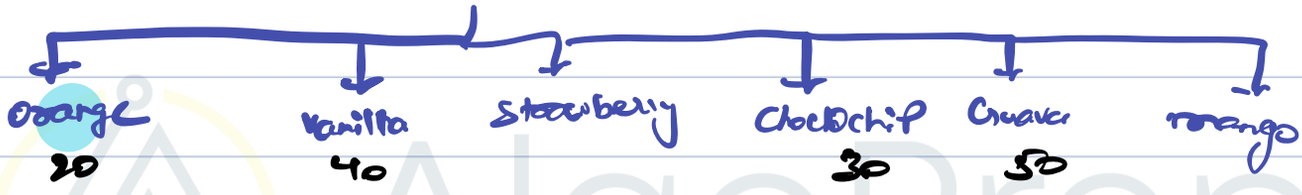




↳ When do we need decorators

↳ Whenever we need to keep on adding another entity to create your final entity, consider decorator design pattern.



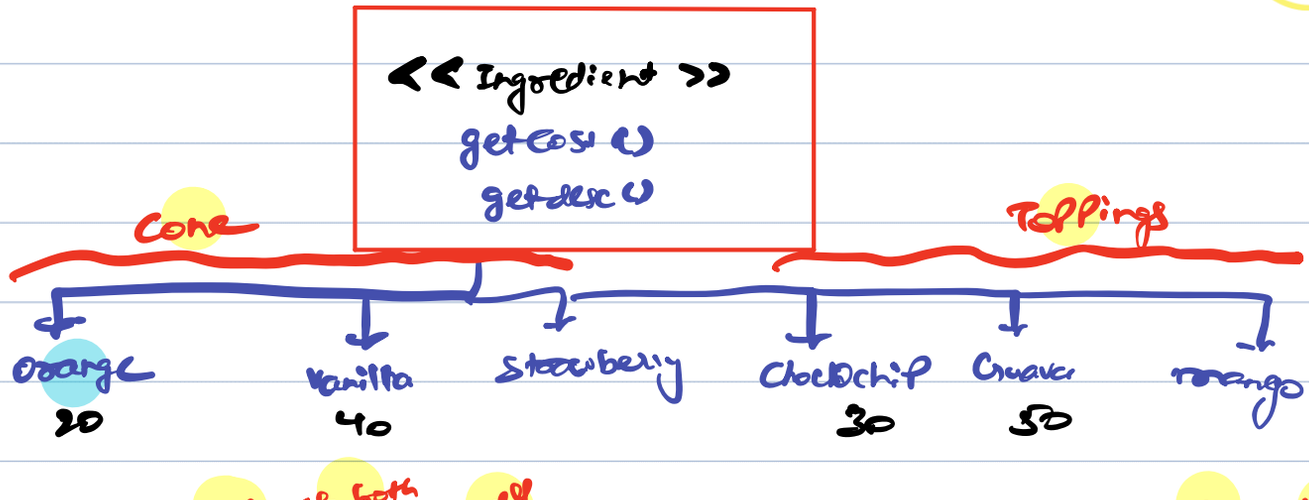


Orange Cone ⇒ getCost() : 20

+

Guava ⇒ getCost() : 20 + Cost of Guava : 70

ChocoChip ⇒ getCost() : 70 + Cost of ChocoChip : 100



Should act both as base as well as addon

→ base selection

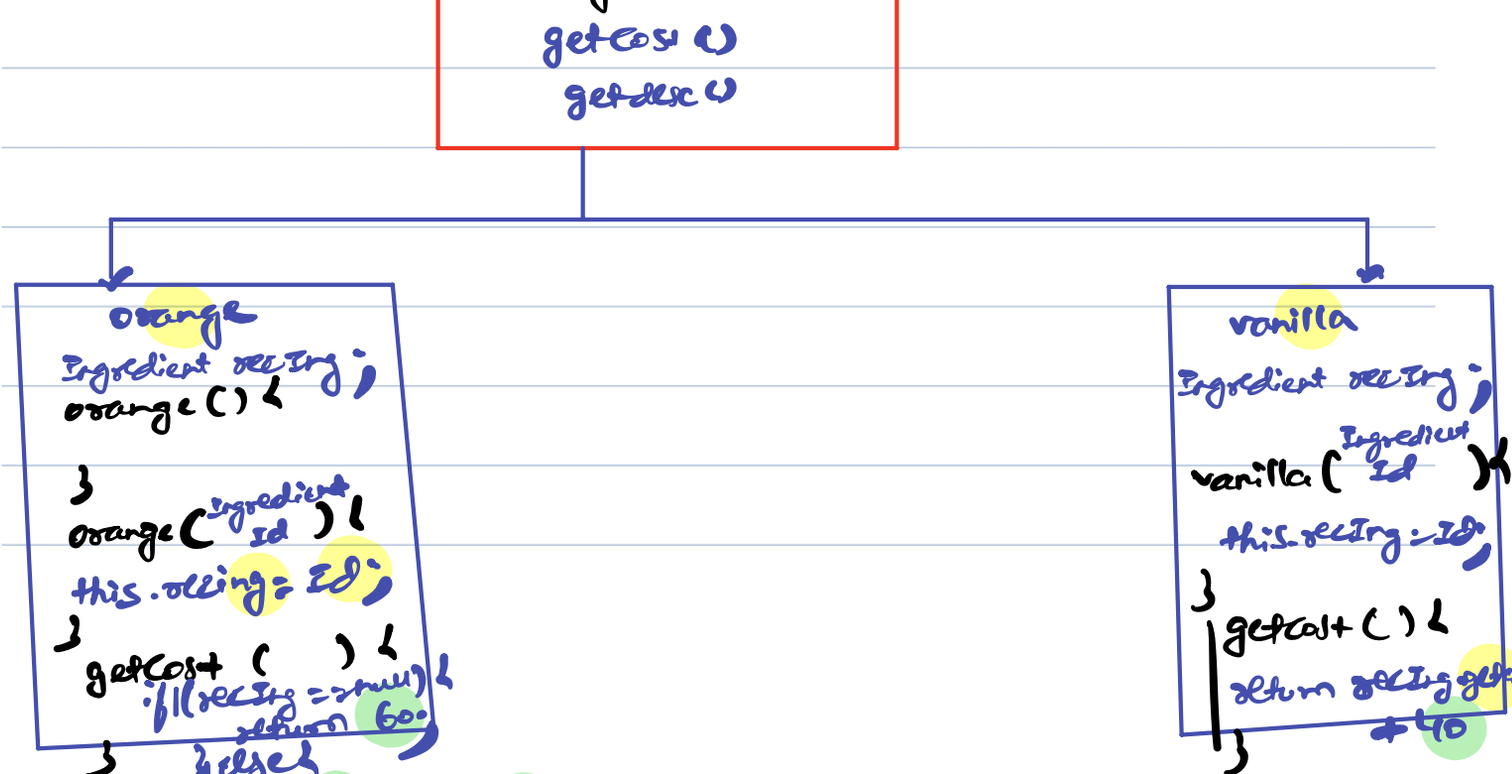
↳ orange

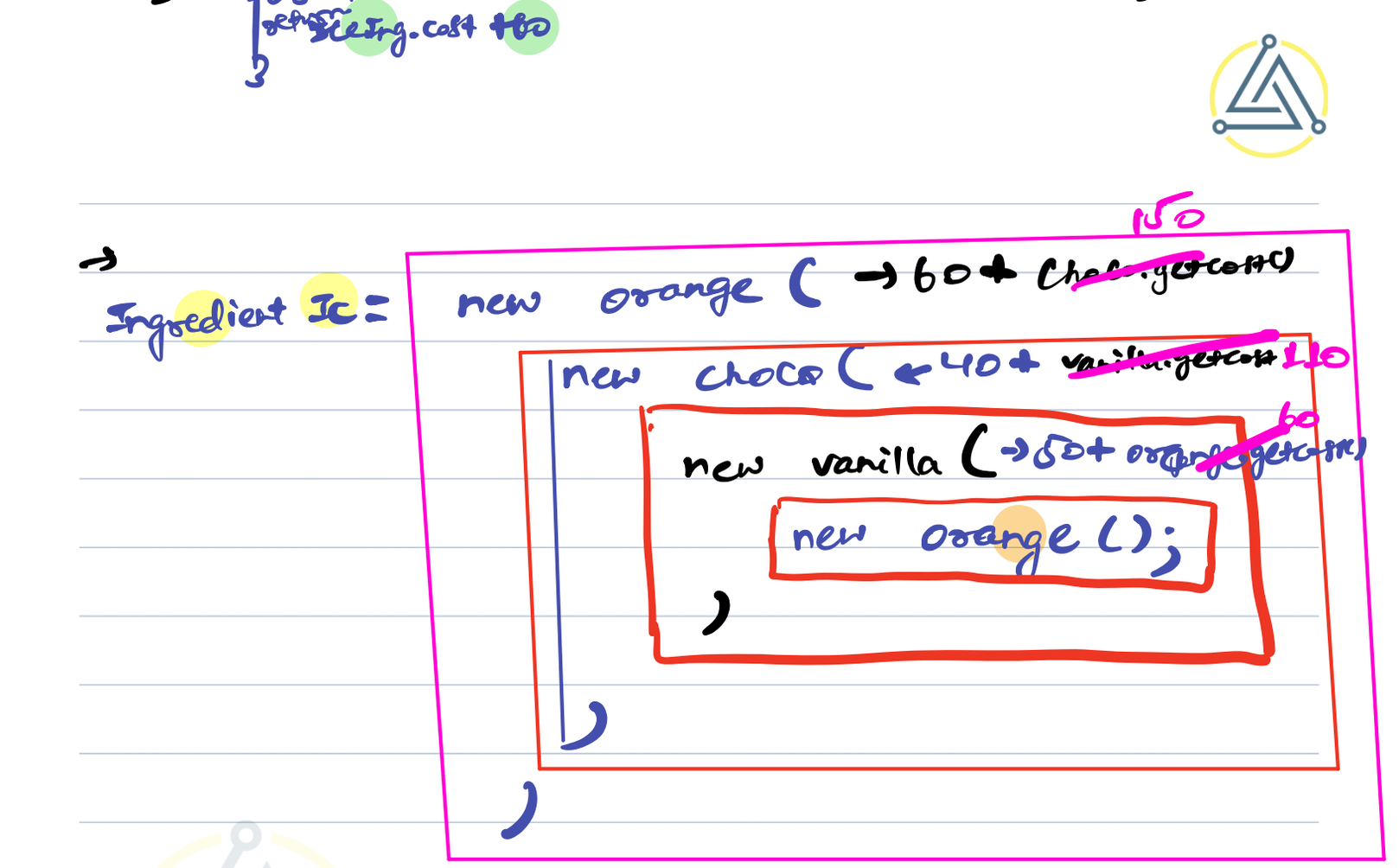
only act as addons

→ add Ons

Cream + mango

Final Soln



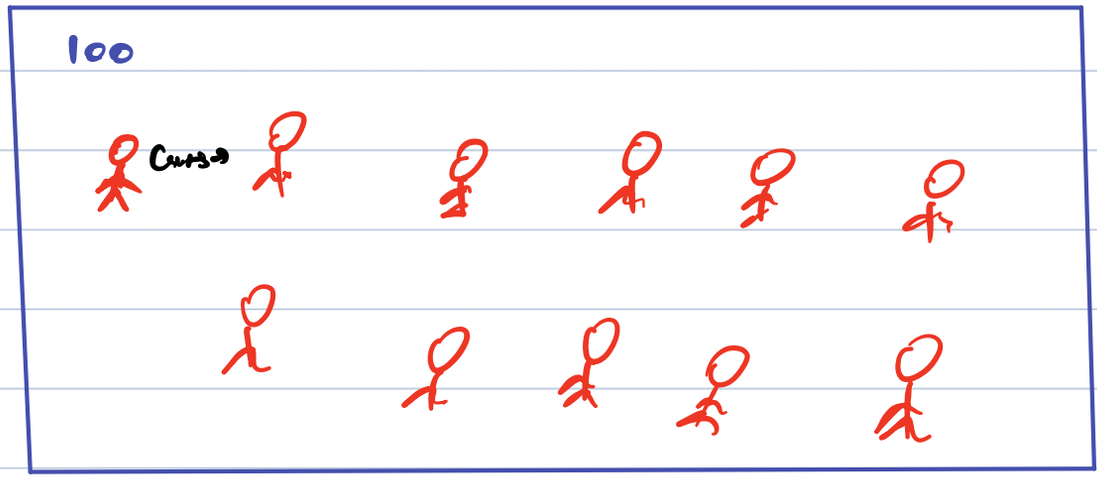


IC.getCost() → 210

Code on your own

Break till 9:20 Pm

→ Flyweight design Pattern



↳ Start game: → game map is going to be loaded.

↳ Change happening must be broadcasted to the Players.

Players Guns visible area to us vehicles bullets

→ 100 Person

↓

500 rounds — 1500 rounds

↓

150000 bulles Per game.

assume ↓

100000 bullets Per game.

↓

100000 * 10 Kb

$= 10^6$ Kb = 1GB

Flyweight design Pattern

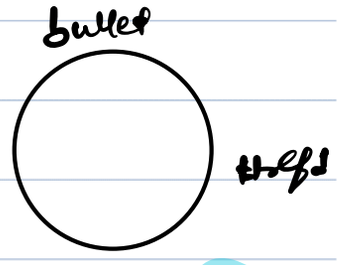
↳ objects have 2 types of Properties:

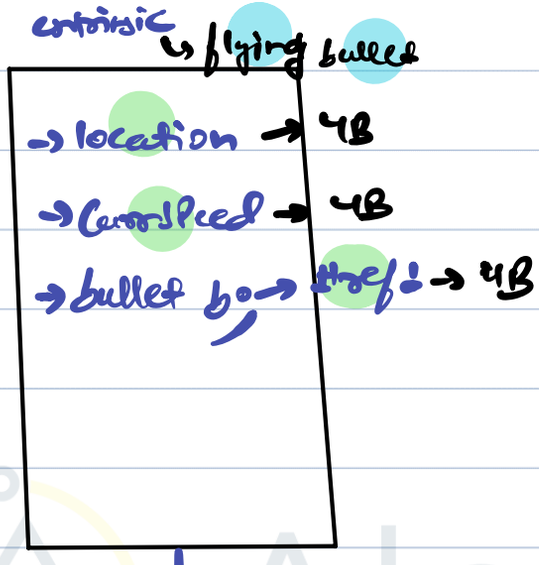
(i) intrinsic : that won't change

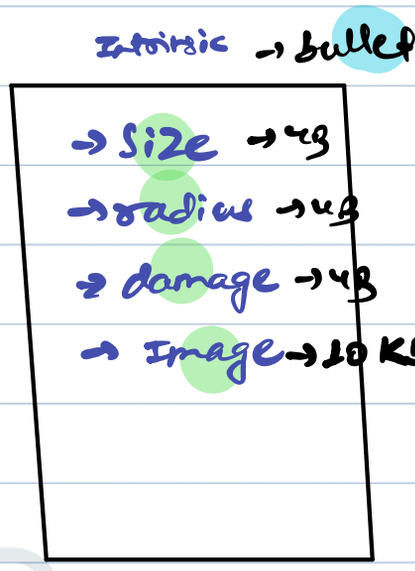
(ii) extrinsic : the Properties that might change

↓

Split your Class into 2 with intrinsic & extrinsic Property respect.







↳ 1000000 * 12B around 1 MB
12 * 1000 * 100 →

↳ 10KB = 1MB

Extending will have same issue as above.