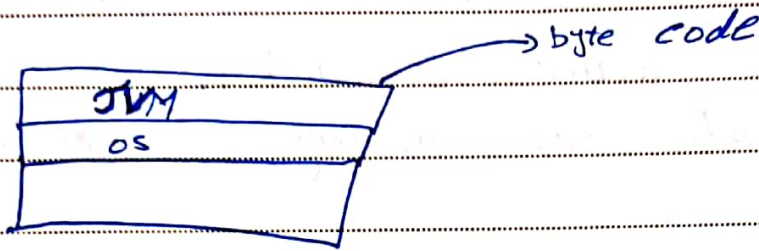


## software testing

→ Java (platform independence)



variable  
operator  
statement  
condition  
loop

Inheritance: we do inheritance to use functionality.

→ Polymorphism:

```
shape s = new Rect();
s.draw();
s = new Circle();
s.draw();
```

if else ko kaam kar saktay ha polymorphism sy.  
coupling ko kaam kar // // interfaces sy.

u package  
~~all~~ bll  
~~all~~ dal  
pl

```
int cnic
string name
int fatherCnic
int motherCnic
```

to person → class (person)

if you modify the string then use

[Alt+shift+S]  
Create setter Public

testable ko easy karta ha



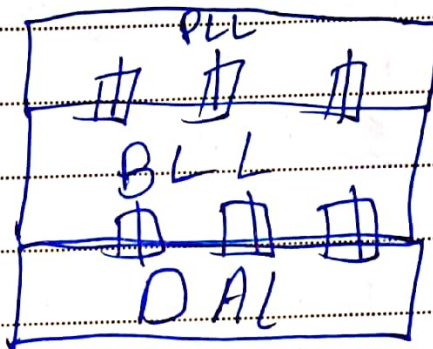
~~2.8.2022~~

→ dependency injection:-

→ new nahi banani

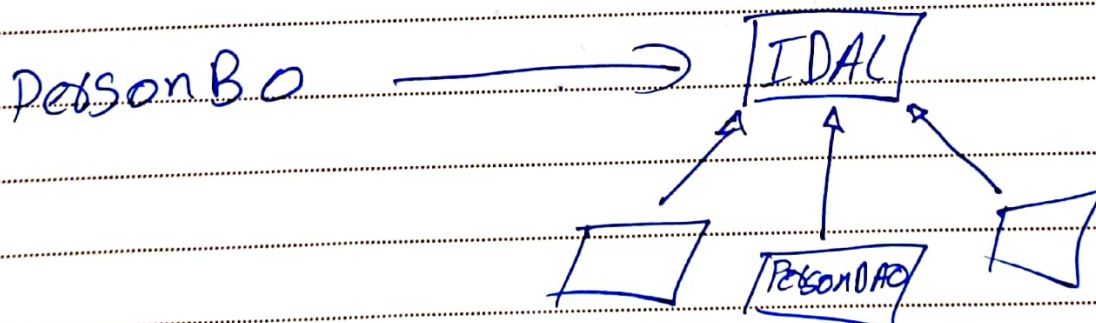
→ inject karo bahar sy

Add Interface



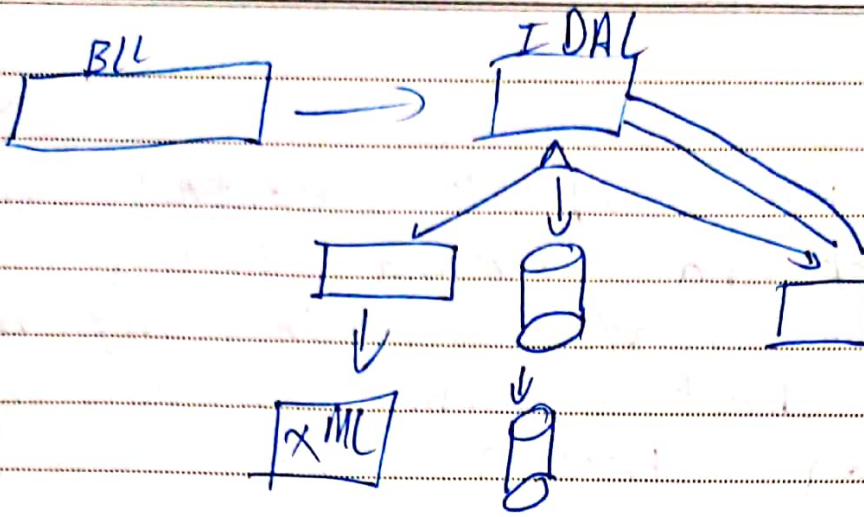
→ dependency inversion principle:-

Now that will use interface and not on concrete object.



UAN : (051) 111 128 128, isb.nu.edu.pk

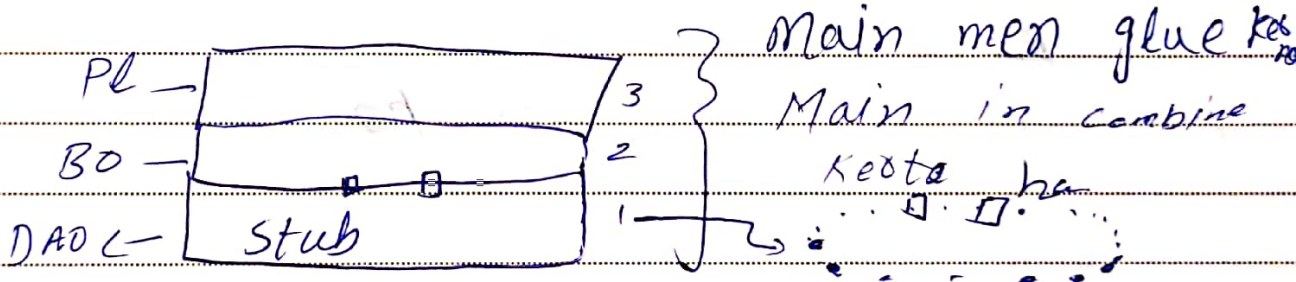




⇒ Interface define kerna ha

⇒ reference concrete na ho.

9-02-2023



we use stub instead of actual implementation

[BO ko test kerna.

wassay banana nahi chahay stub ki class dal  
mein kru ky jab testing kr ly a ha.

# table banay gy kru ky wo  
db ki tarha act karta ha.

UAN: (051) 111 128 128, isb.nu.edu.pk

[concrete constructus mein coupling  
zada ha]

Date: \_\_\_\_\_

Stub:-

- BIL ko check krtay waqt dal ko check na krna pday.
- Regression test mein app bas bas DB ko check nahi krtay.
- Alag Alag testing ho rahi ho.
- hamara maqsad ha BIL ko test krna na ky DAO ko

09-02-2023

gss tesha ka hash chahay Jo target hash sy kaam ho.

→ What is Hash-

- i) symmetric key (1 hi key use hoti) dono taraf
- ii) A// // // // (2 keys hoti ha Public Private)

• Digital signature:-

- i) Authentication
- ii) Non-repudiation
- iii) Integritation