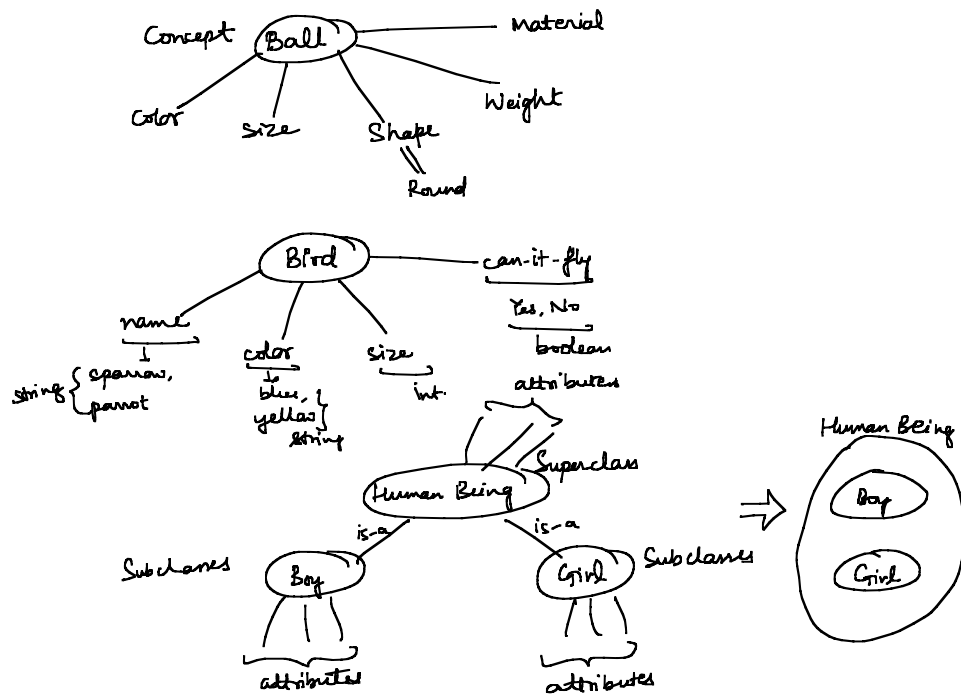
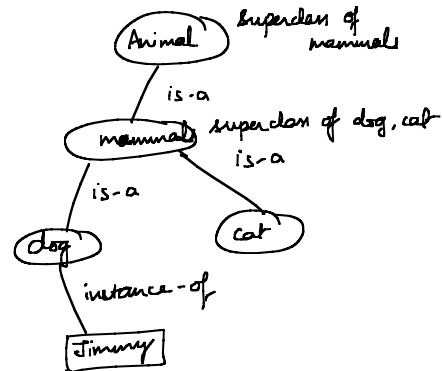
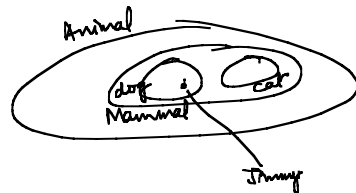


FRAMES

- A frame is a prototype of concept.
 - It denotes the attributes of the concept.
 - An instance of a frame is a representation of a specific object.
- ↑
Instantiation of frame.

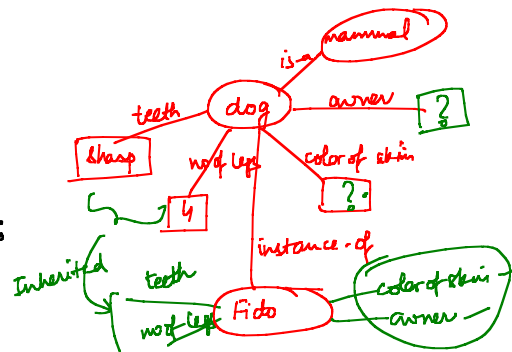


Example:- Fido is a dog.
The concept dog.
Fido is a particular dog.

Frame

Dog

is-a : mammal ;
no. of -legs : 4 ;
type-of -teeth : sharp ;
has-tail : yes ;
color-of -skin : ;
owner : ;

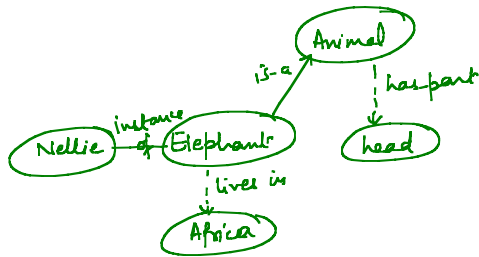


Fido

is-a : Dog ;
no. of -legs : 4 ;
type of teeth : sharp ;
has-tail : yes ;
color-of -skin : black ;
owner : Tom ;

Object - Attribute - Value

- An instance of a frame denotes an object.
- A frame denotes the class to which the object belongs.
- The slots denote the attributes of the object.
- The slots can be of different values
- The slots are instantiated with values.



Semantic Net

```

Elephant
{
  is-a: Animal;
  has-part: head;
  lives-in: Africa;
}

Nellie
{
  instance-of: Elephant
}
  
```

Slots

- Slots denote attributes
- Attributes are typed.
- In slots, we can have → values, types
 - constraints over possible values
 - predicates (daemons/functions)
 - pointer to frames (Frames within slots)

Object oriented system

OOS

Classes

Objects

Methods

FBS

Frame based system

Frames

Instances

Daemons

Frame.
Boy

Slot names

is_a

name

age

height

stays-at

studies-in

grades

Slot values

Human being

Slot value types

constraints

Predicates

string

int

≤ 15

float

< 7.0

If added test (constraint)

string

string

* results

If needed compute CGPA (Boy's results)

Predicates in a slot

↳ If needed predicates: has to find/compute a value

If added predicate: to check constraints on values, consistency checking.

Tom

instance-of: Boy

name: Tom Smith

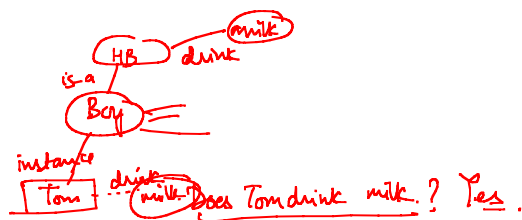
age: 12

height: 5

stays-at: 15, Park Avenue

studies-in: DTU, Delhi

grades: ——— If needed compute CGPA (Tom, results).

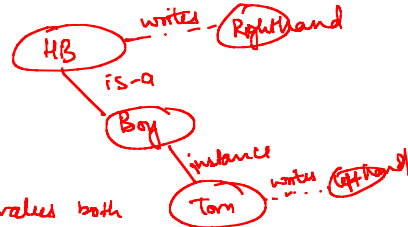


Generic Values

↳ values which will hold true for all subclasses of the class and all instances of the class.

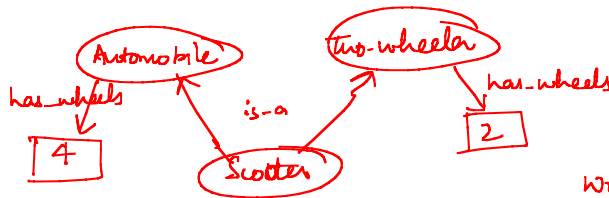
↳ Generic values can be inherited down the hierarchy.

Default value



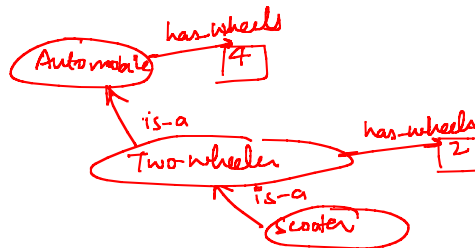
Inheritance

- In super class, generic and default values both are specified for all the attributes.
- In subclasses/instances,
 - generic values are retained.
 - default values may be overwritten.



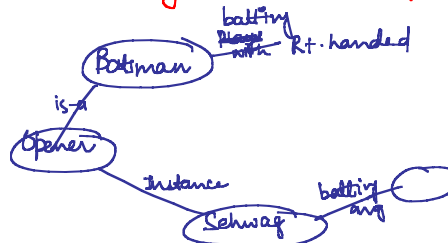
Multiple Inheritance

Wrong organization



Inference in Frame

- look for candidate frame or instances
- Look for the availability of values?
- If available - solved.
- Else go to preceding level and so on.
- If solved at higher level, try to have more specific answer.



With which hand does Sehwag bat?
Rt handed