



Assignment of OOP

Q Definition of object in time with example.

① — object is something state, behaviour, identity, responsibility.

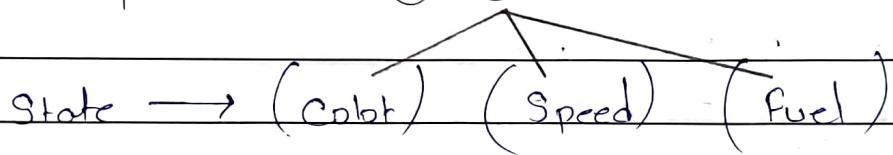
① state → value given to attribute

② behaviour → Response given to outside world.

③ identity → uniqueness of an object

④ Responsibility → Role's of object

Example → ① Car



behavior → start, stop, accelerate.

identity → car Num, Engi Num

responsibility → Transport people

② — object is something state, behaviour, identity, responsibility.

state → values given to attribute

behaviour → response given to outside world.

identity → uniqueness of an object

responsibility → role's of object.

Example

② Student

State → (Name) (Roll No) (Marks)

behaviour → Study, write exam

identity → Roll No.

responsibility → Learn and complete task (study)

③ - object is something state, behaviour, identity, responsibility.

state → value's given to attribute.

behaviour → Response given to outside world.

identity → uniqueness of an object

responsibility → role of an object

Example - ③ mobile phone

State → (Btand) (ram) (Storage)

behaviour → Call message install app

identity → IMEI Number

responsibility → Communication

④ object is something state, behaviour, identity, responsibility

- ability

state → value's given to attribute

behaviour → Response given to outside world.

identity → uniqueness of an object

responsibility → role of an object

Example

④ PTT

State → (Color) (ink level)

behaviour → write

identity → btand, Model

responsibility → help to write.



④ - object is something state, behaviour, identity, responsibility.

state → value given to attribute

behaviour → Response given to outside world.

identity → uniqueness of an object.

responsibility → role of an object.

Example ⑤ Book.

state → (Name) (Author) (pages)

behaviour → open, close, Page change

identity → ISBN Number. (International Standard Book Number)

responsibility → Given information.

⑥ - object is something state, behaviour, identity, responsibility

state → values given to attribute

behaviour → Response given to outside world.

identity → uniqueness of an object

responsibility → role of an object.

Example - ⑥ Laptop

state → (Brand), (RAM), (Battery)

behaviour → On/Off, Program run

identity → Serial Num

responsibility → computing task.

⑦ — object is something state, behaviour, identity, responsibility

state → values given to attribute.

behaviour → response given to outside world.

identity → uniqueness of an object.

responsibility → role of an object.

Example — ⑦ Dog

state → (Breed) (Age) (weight)

behaviour → bark, run, Eat

uniqueness → microchips

responsibility → guarding

⑧ — object is something state; behaviour; identity; responsibility

state → values given to attribute.

behaviour → response given to outside world;

identity → uniqueness of an object

responsibility → role of an object.

Example — ⑧ Door

state → (material) (color) (height)

behaviour → open close

identity → ~~Door~~ Door Num

responsibility → allow entry / exit



(9)

- object is something state, behaviour, identity responsibility.

state → values given to attribute.

behaviour → Response given to outside world.

identity → uniqueness of an object

responsibility → role of an object.

Example → (9) fan

state → (speed level), (no of blade)

behaviour → on/off, inc/dec speed.

identity → model num

responsibility → provide air flow.

(10)

- object is something state, behaviour, identity responsibility

state → values given to attribute.

behaviour → response given to outside world.

identity → uniqueness of an object

responsibility → role of an object

Example → (10) chair

state → color material Height

behaviour → sitting, move.

identity → chair num / model

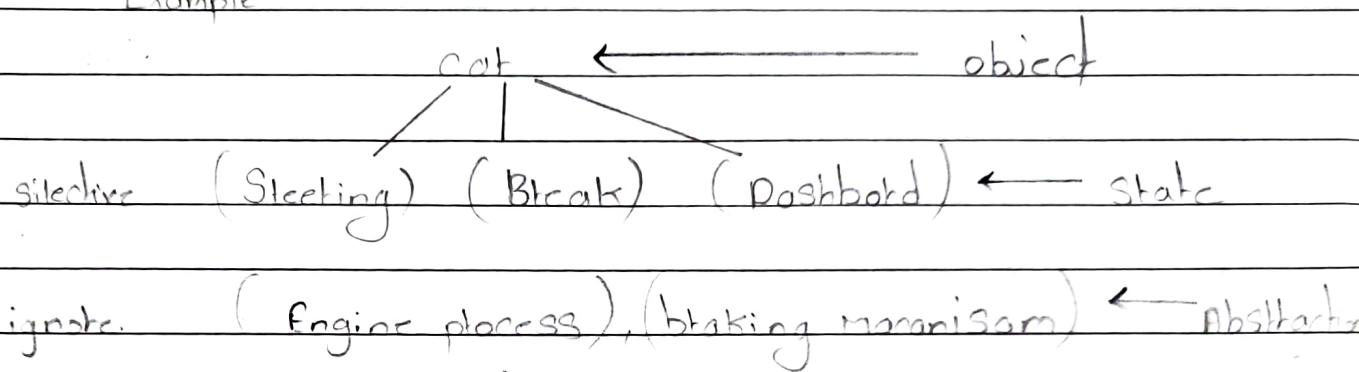
responsibility → provide seating



② What is abstraction and its example.

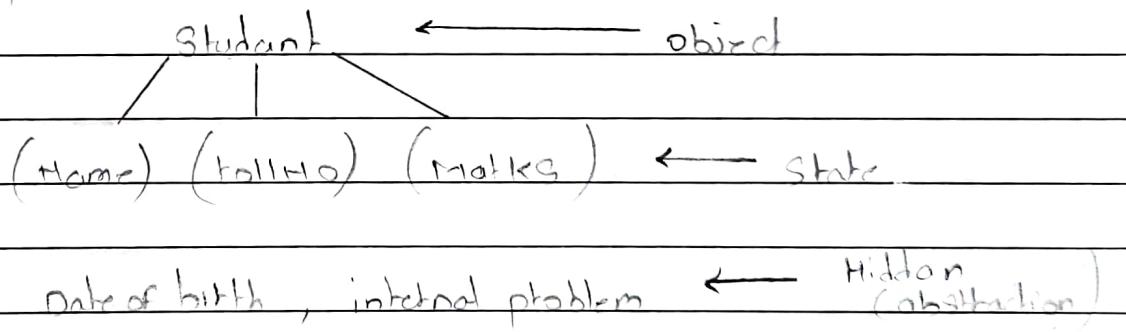
- ① - Abstraction is a selective ignorance.
- It is process of selecting the necessary detail and ignoring un-necessary part.

Example -

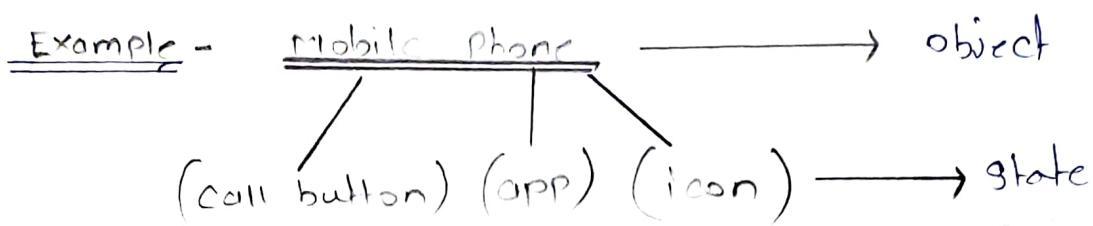


- ② - Abstraction is a selective ignorance.
- It like the necessary data selected and remaining we have to hide.

Example -

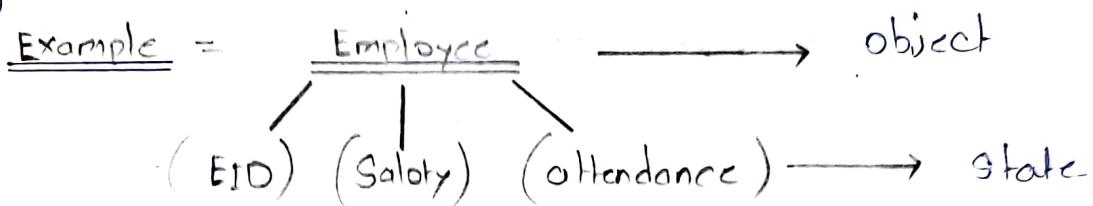


- ③ - Abstraction is a selective ignorance.
- It Selected necessary data and remaining we have to ignore.



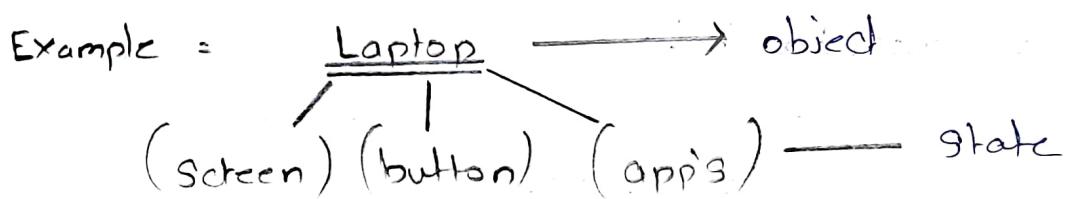
inbuilt process, Network algorithm → Abstraction (Hidden)

- ④ - Abstraction is a selective ignorance
like selecting necessary data and unnecessary data we have to ignore



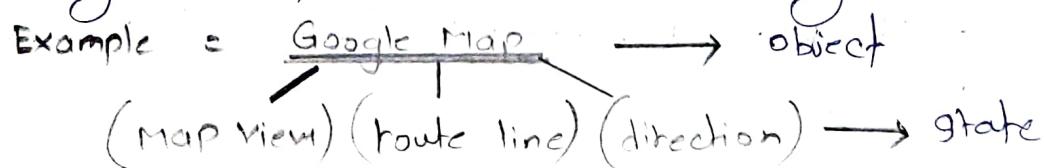
Employee cast, Salary calculation → abstraction logic (Hidden)

- ⑤ - Abstraction is a selective ignorance
like selecting necessary data and remaining we have to ignore



System operation, CPU processing → Abstraction (Hidden)
, Memory allocation

- ⑥ - Abstraction is a selective ignorance
like selecting necessary data and remaining we have to ignore.



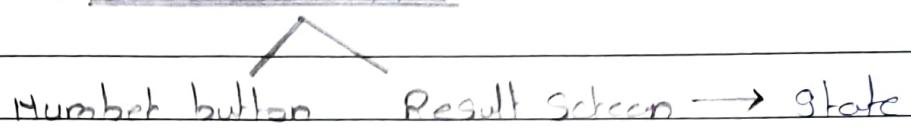
GPS Process, traffic detection process → Abstraction (Hidden)



(7)

- Abstraction is a selective ignorance like selecting necessary data and remaining we have to ignore.

Example = calculator app → object



Arithmetic logic → abstraction(Hidden)

(8)

- Abstraction is a selective ignorance like a selecting necessary detail and remaining we have to hide.

Example = Printer → object

State ← (print button) (paper tray) (paper outlet)

ignore ← ink distribution, melt working, printing mechanism

(9)

- Abstraction is a selective ignorance like a selecting necessary detail and remaining we have to ignore

Example = online shopping app → object

State ← (product list) (add to cart) (order confirm)

ignore ← Backend process, inventory management
abstraction

⑩ - Abstraction is a selective ignorance.
like selecting necessary detail and remaining we have
to ignore

Example = Youtube → object

(play button) (video) (push button) → state

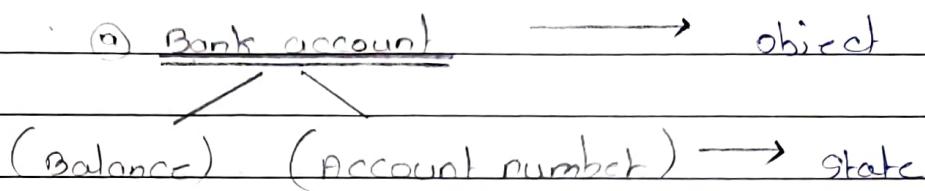
Video encoding, streaming service, data transfer → ignore abstraction



Q. Write a definition of encapsulation with example.

① Encapsulation is a way of binding and hiding state and behaviour by default.

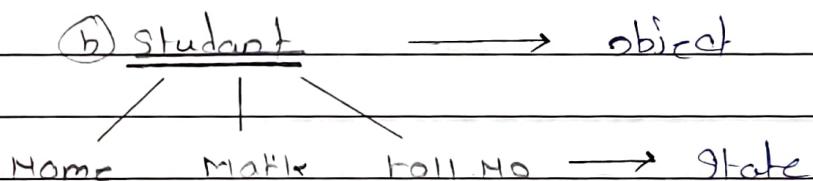
Example



deposit(), withdraw() → behaviour
Balance → Hiding

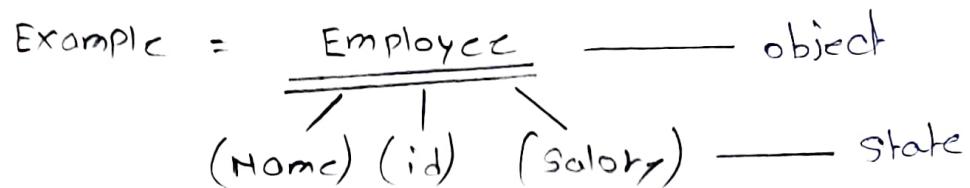
② Encapsulation is a way of binding and hiding state and behaviour by default.

Example -



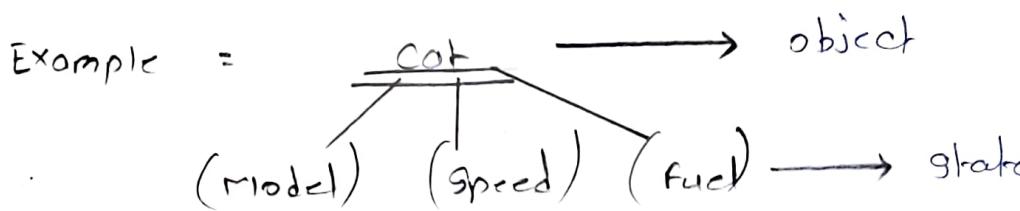
setmark(), getmark() → behaviour
Mark → hiding

④ Encapsulation is way of binding and hiding state and behaviour by default.



Binding { getSalary(), calculateBonus() — behaviour
 Salary — Hiding.

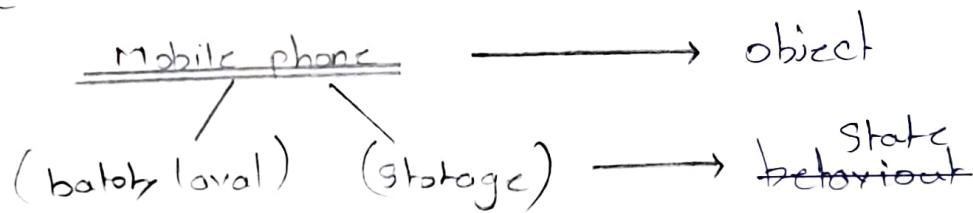
- ④ Encapsulation is a way of hiding and binding state and behaviour by default



Binding { accelerate(), break() — behaviour
 engine working — Hiding

- ⑤ Encapsulation is a way of hiding and binding state and behaviour by default

Example



Call(), install app() — behaviour
 internal os fun — Hiding

- ⑥ Encapsulation is a way of hiding and binding state and behaviour by default.



Example - washing machine → object
/ | \
motor timer type wash → state

startWash() stopWash() → behaviour
motor operation → hidden

- ⑦ Encapsulation is a way of hiding and binding state and behaviour by default.

Example =

Trip Ticket Booking → object
/ | \
SeatNo passengerName Ticketstatus → state

bookTicket() cancelTicket() → behaviour
booking algorithm → hidden

- ⑧ Encapsulation is a way of hiding and binding state and behaviour by default.

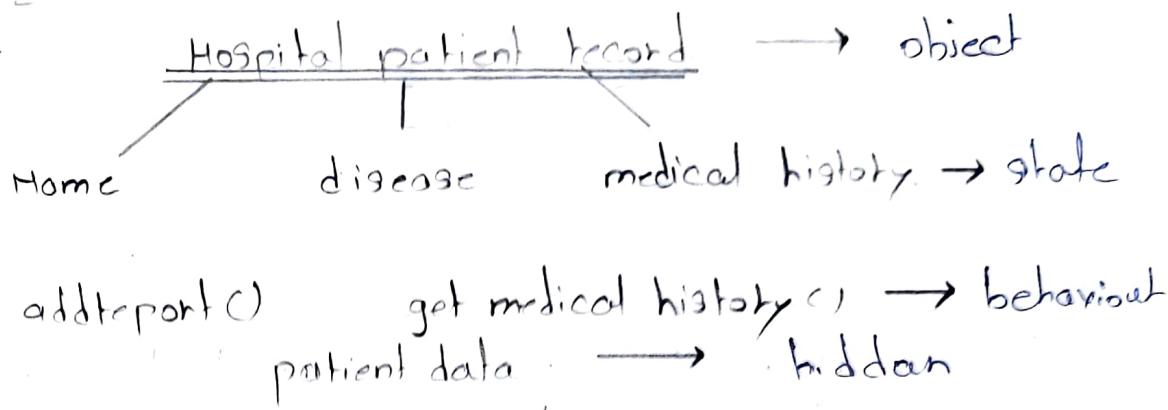
Example =

online Shopping app → object
/ | \
item list count total amount → state

addItem(), removeItem(), calculateItem() → behaviour
Total item amount → hidden

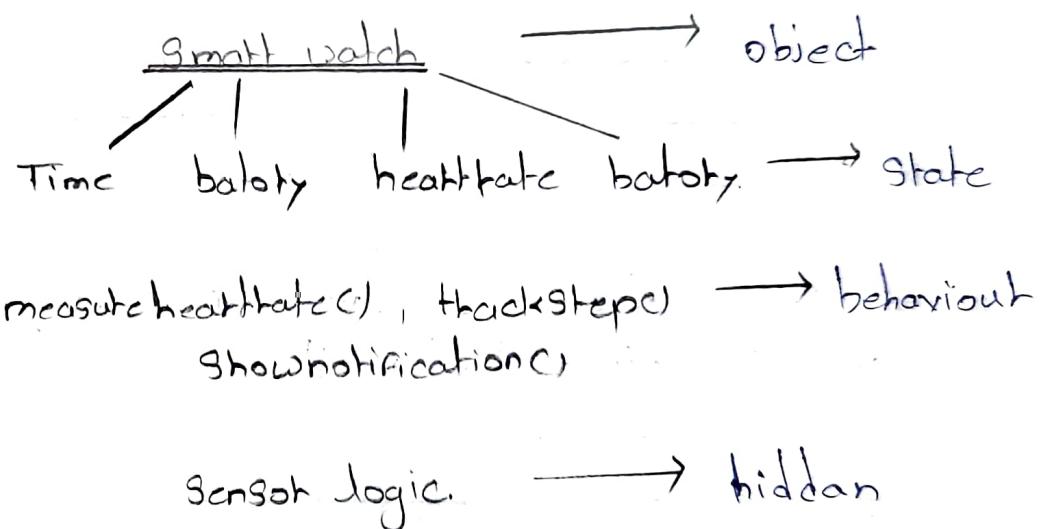
⑨ Encapsulation is a way of hiding and binding state and behaviour by default

Example =



⑩ Encapsulation is a way of hiding and binding state and behaviour. by default

Example =

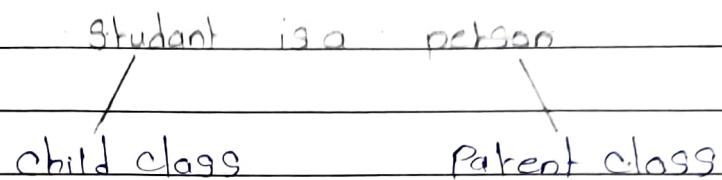




Q) write a definition of inheritance with example.

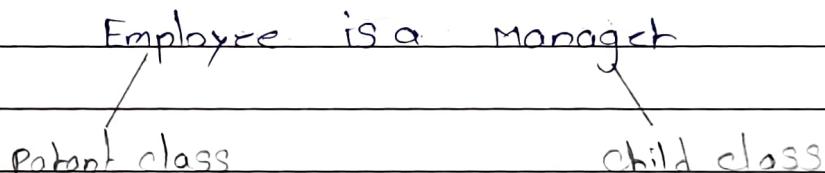
① Inheritance is a way of re-using already defined class with is-a relationship.

Example



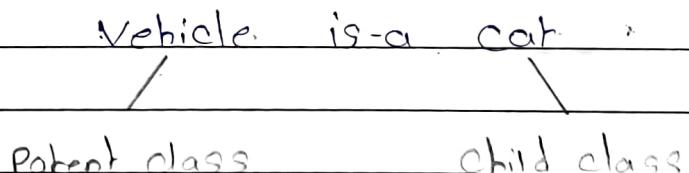
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Example

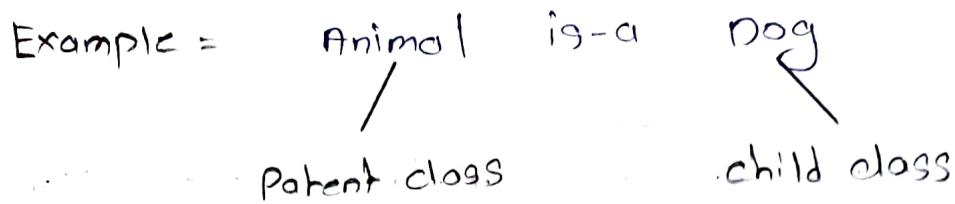


③ Inheritance is a way of re-using already defined class with is-a relationship.

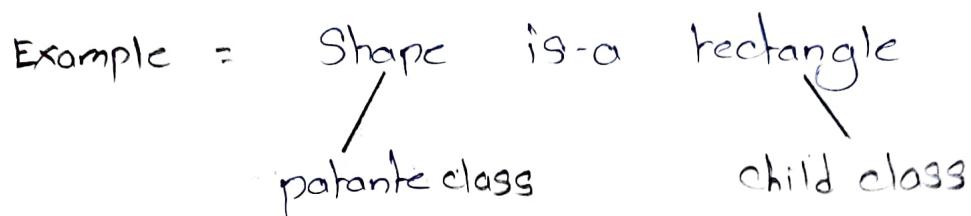
Example :



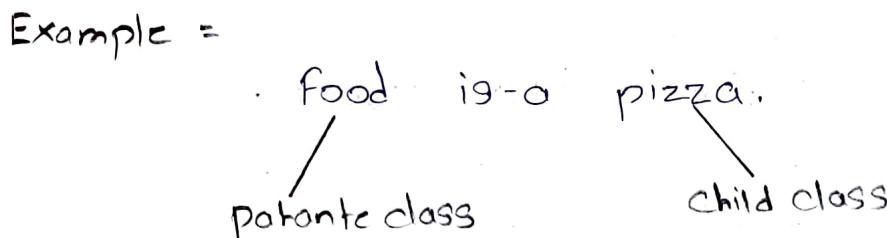
④ Inheritance is a way of re-using already defined class with is-a relationship.



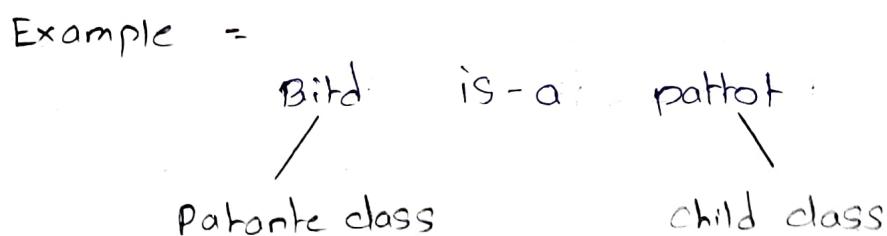
- ⑤ Inheritance is a way of re-using older already defined class with is-a relationship.



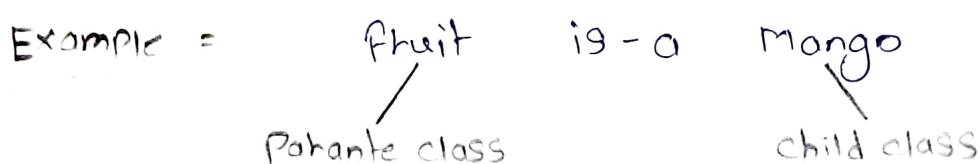
- ⑥ Inheritance is a way of re-using already defined class with is-a relationship.



- ⑦ Inheritance is a way of re-using already defined class with is-a relationship.



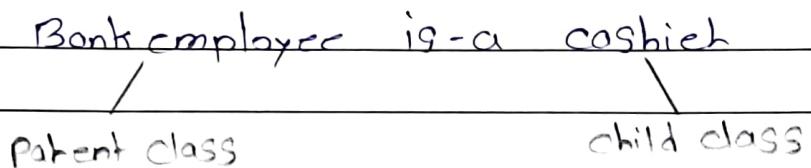
- ⑧ Inheritance is a way of re-using already defined class with is-a relationship.





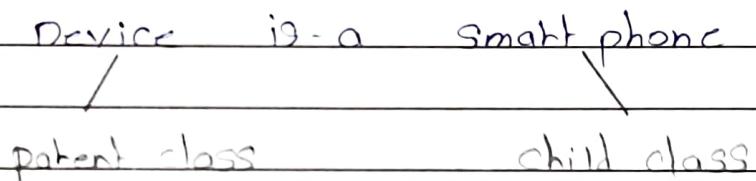
(9) Inheritance is a way of re-using already defined class with is-a relationship.

Example =



(10) Inheritance is a way of re-using already defined class with is-a relationship.

Example =





Q. write a definition of polymorphism with example.

① Polymorphism is a same message given to generalize thing or same behaviour but implement differently.

Example : Animal → sound()

→ Dog sound() → "Bark"
→ Cat sound() → "meow"

② Same message given to generalize thing or same behaviour but implement differently.

Example =

Employee → calculateSalary()

→ Manager() → base + bonus
→ Developer() → base + overtime

③ Same message given to generalize thing or same behaviour but implement differently.

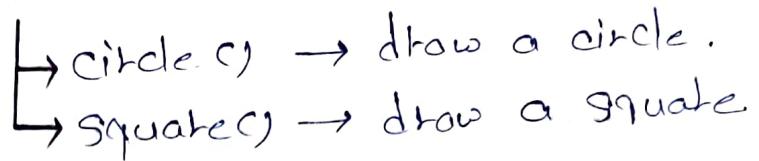
Example -

Vehicle → start()

→ car() → start with key
→ bike() → start with key

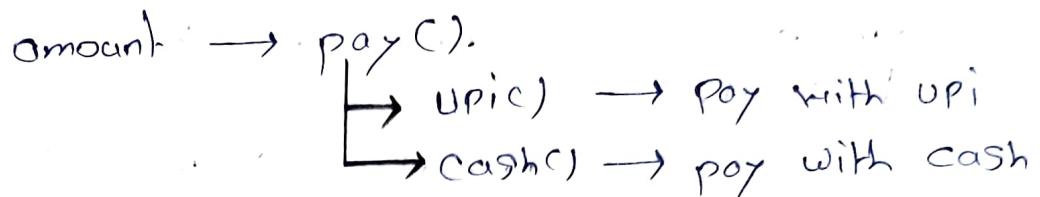
④ Same message given to generalize thing or same behaviour but implement differently.

Example : Shape → draw()



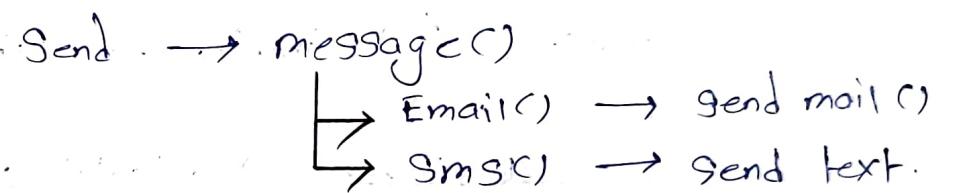
- ⑤ Some message given to generalize things or same behaviour but implement differently.

Example =



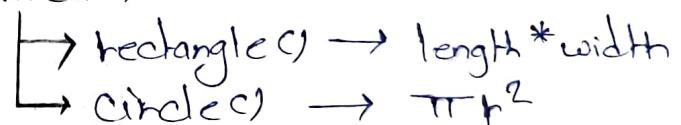
- ⑥ Some behaviour but implement differently. or same message given to generalize things.

Example =



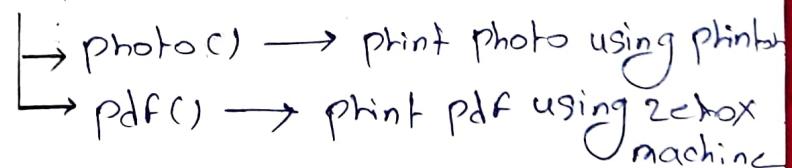
- ⑦ Some message given to generalize things or same behaviour but implement differently.

Example = Calculate → Area()



- ⑧ Some message given to generalize things or same message but implement differently.

Example = Printor → print()

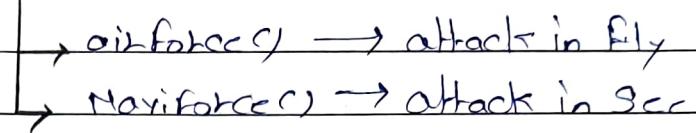




(9)

Same message given to generalize thing or
Same behaviour but implement differently.

Example = Army → attack()



(10)

Same message given to generalize thing or
Same behaviour but implementing differently.

Example =

Device → connect()

