⑤ what is oops?

object oriented programming

oop is Black Box

→ ab oop is a computer programming model that organizes software design around data or objects rather than functions and logic. An object can be define as a data field that has unique attributes and behavior

there are four types of oop
① Encapsulation
② Inheritence
③ polymorphism
④ Data Abstraction

⑥ what is Basic Concepts of oops?

⟹ oop is an approach or a programming pattern where the programs are structured around objects rather than functions and logic. It makes the data partitioned into two memory areas. i.e. data and functions and helps make the code flexible and modular

⑦ what is an objects?

⇒ An object represent an individual identifiable item, unit or entity either real or abstract with a well defined role in the problem domain

→ This is the basic unit of object oriented programming (OOP)

→ That is both data and function that operate on data are bundled as a unit called as object.

Object = Data + methods

⑧ what is class?

⇒ class is a blueprint for an object.

→ class represents an abstraction of the object and abstracts the properties and behavior of that object.

→ An object is a particular instance of a class which has actual existence and there can be many objects for a class
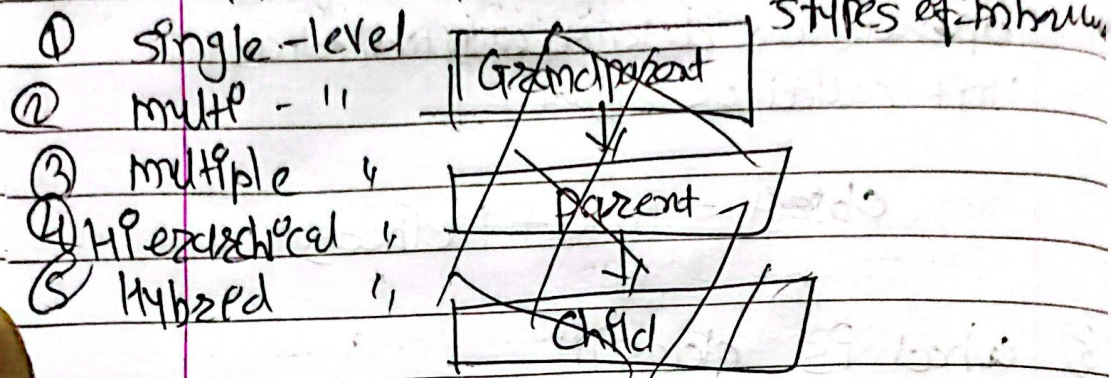
⑨ what is Encapsulation?

⇒ Encapsulation is the practice of including in an object everything it needs hidden from other objects. The internal state is usually not accessible by other objects

⑩ what is Inheritance?

⟹ Inheritance means that one class Inherits the characteristics of another class. This is also called a is a relationship.

→ In general, Java supports single-parent, multiple- children Inheritance and multilevel Inheritance.

① Single-level
② multi - ''
③ multiple ''
④ Hierarchical ''
⑤ Hybrid ''

5 types of Inheritance

Grandparent

Parent

Child

⑪ what is polymorphism?

⟹ polymorphism means " having many forms"

→ It allows different objects to respond to the same message in different ways the response specific to the type of the object

→ most Important aspect of an object is its behaviour.

→ A behaviour is Initiated by sending a message to the object by calling a method

→ Two types of polymorphism

① compile time polymorphism (overloading)

② Runtime polymorphism (overriding)