1. Given an entity named **Television,** identify its attributes and explain how will you do Abstraction?

Attributes:

* Display screen
* TV buttons
* Cable
* Plugin wires
* Remote
* Set of box

Abstraction means hiding the working details and only showing functionality to the user. Now Considering the Television in which the details like Mother board, set top box and working of remote were hided and only the functionality visible to us.

1. Given an entity named **Hospital,** explain Encapsulation with respect to it.

Attributes:

* Doctors
* Patients
* Security
* Reception
* Pharmacy
* Account section
* Technicians

Encapsulation is the wrapping of the properties and behaviour using a single unit.

Now considering the Hospital in which all the attributes mention above are binded

Or encapsulated in a single unit called Hospital.

1. Given an entity named **Traffic Signal,** explain Polymorphism with respect to it.

Polymorphism is an OOP concept that refers to the ability of a variable or object to take many forms. If we consider the example of Traffic signal which consists of a single LED panel which perform multiple tasks by using different colours, which are Green sign to go, Red sign to stop and Yellow ready to go. Since the traffic signal is taking multiple forms it is taking a property of polymorphism.

1. Given an entity named **Broad Band Connection.** Explain inheritance with respect to it.

Inheritance is a mechanism in which one object acquires all the properties and

behaviours of a parent object.

Example: If we consider Broad Band Connection is an example, Its types of transmitting

the data can be in many ways as shown below.

* DSL
* ADSL
* SDSL
* Cable modem
* Fiber
* Wireless
* Satellite
* Broad Band over powerlines (BPL)

All types of broadband connection has the same property and they have the additional properties according to their types. Like as ADSL and SDSL comes under the DSL it has the properties of SDL and along with both of these having their own proprerties.

1. Given an entity named **Mobile Phone,** identify its static & dynamic attributes.

Static attributes:

* Display
* Camera
* Mother board
* Memory Card
* Mobile Body
* Body dimensions

Dynamic attributes:

* Battery
* Network
* Storage
* Operating System
* Applications.