Topic 1:

Create a package “A”. It includes:

1. Create a class Electric. It contains  
   - instance variables : String Id, String Name, int Price  
   - some instance methods: constructors, getters, setters
2. Create a class TV extends class Electric

* Extend variables: int Size, String Band
* Class variable: int volte (default value=220)
* Some methods: constructors, getters, setters, override toString method to formatted string “id-Name-Price-Size-Brand-Volte”

(Use try…catch to check the value of Band variable- Samsung/Sony)

- A class method: void changeVolte( int newVolte): to change the value of class variable (use try…catch to check newVolte - 110/220/240)

Create another package “B”. It contains:

1. Create a class “TVManager” to store all electric products  
   - instance variable: ArrayList list ( generic is used)  
   - some methods:   
    + Boolean Add(TV x)  
    + ArrayList FindAllTV(int m\_size) : to find all TVs that their size are equal m\_size  
    + void sort(): display all TVs with the ascending order (by Brand)

+ TV delete(id)

+ A main method with menu

1. Add a TV
2. Find all TVs
3. Sort by brand
4. Delete a TV and display the deleted TV
5. Exit

Topic 2:

Create a package “A”, it includes:

1. Create an interface “I\_Service”, includes:

* boolean isBan(String m\_id) : return true if SetBox with id=m\_id and its status=1
* final double discount=0.1
* void add() : to add a new SetBox to the list
* ArrayList find(int m\_status): return list of SetBoxs with status=m\_status
* void changeFee(): to change the fee of all SetBoxs, these SetBoxs have the status=0 and the new fee=the old fee \*(1- discount)

1. Create a class “SetBox”

- instance variables: String Id, String ServiceProvider , double Fee, int status (1: ban/ 0; unban)  
- Some methods: constructors, getters, setters , override toString method to return string “id- ServiceProvider-Fee-status ”

(Use try..catch to validate data- ServiceProvider=Vina/FPT, Fee from 100000 to 300000, status=1/0

Create another package “B”. It contains:

Create a class SetBoxManager, this class implements the interface I\_Service

* Instance variables: ArrayList list
* Implements all abstract methods
* A main method with a menu:

1. Add a SetBox
2. Check the SetBox’s status is Ban/UnBan by id
3. Find all SetBoxs by the status
4. ChangeFee and display this result
5. Exit