Exercise 1:

Company
-name : string
+Company(in name : string, in size : int) +addMobile(in m : MobileDevice) : string +countMobileDevices(in b : string) : int +averagePricesOfSmartPhones() : double +averagePricesOfSmartPhones(in nbS : int, in b : string) : double +saveSmartPhones(in fileName : string, in nbS : int) : int

1   -arrMob

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MobileDevice
-brand : String -speed : double #storage : int -price : double
+MobileDevice(in brand : String, in storage : int, in speed : double) +calculatePrice() : double +getBrand() : string

Tablet
-screenSize : int
+Tablet(in brand : String, in storage : int, in speed : double, in screenSize : int)

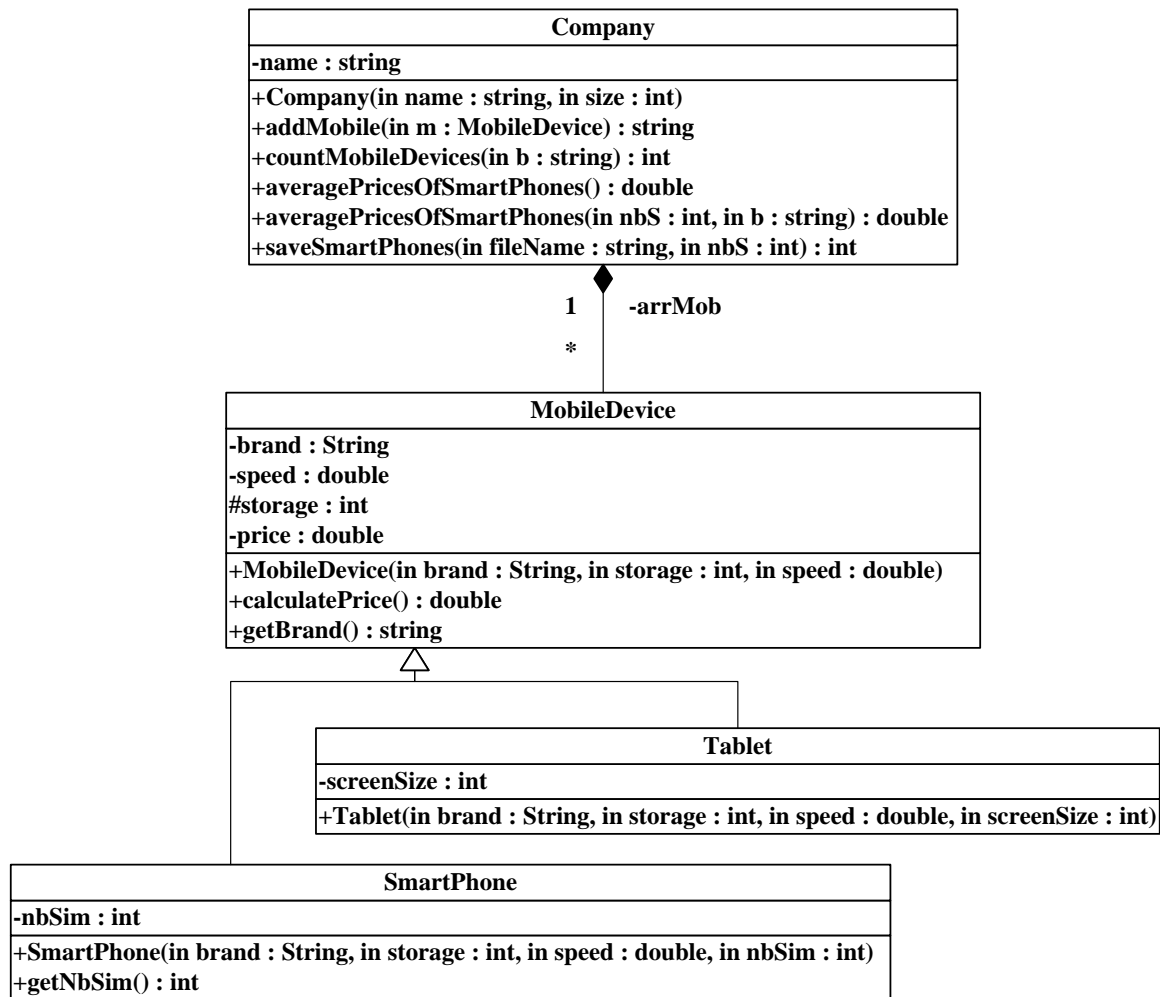| SmartPhone |
| --- |
| -nbSim : int |
| +SmartPhone(in brand : String, in storage : int, in speed : double, in nbSim : int)
+getNbSim() : int |

MobileDevice class*:*
- o Attributes:
  - • *brand*: the brand of the mobile device.
  - • *speed:* the speed of the mobile device.
  - • *storage*: the storage capacity of the mobile device.
  - • *price*: the price of the mobile device.
- o Methods:
  - ▪ *MobileDevice(brand: string, storage: int, speed: double)*: constructor
  - ▪ *calculatePrice( )***:** this method calculates and returns the price of the mobile device. The price is calculated as follows:
    - o *For Smart Phone: price = 1300 + number of sim cards * 150*
    - o *For Tablet: price = 1300 * storage+ screen size * 50*
  - ▪ *getBrand():*this method returns the brand of the mobile device.

SmartPhone class
- o Attributes:
    - *nbSim*: the number of SIM cards.
- o Methods:
    - *SmartPhone (brand: string, storage: int, speed: double, nbSim: int)*: constructor.
    - *getNbSim():*this method returns the number of sim cards supported by the smart phone.

Tablet class:
- o Attributes:
    - *screenSize*: the screen size of the tablet.
- o Methods:
    - *Tablet (brand: string, storage: int, speed: double, screenSize: int)*: constructor.

Company class*:*
- o Attributes:
    - *name*: the name of the company.
- o Methods:
    - *Company(name: string, size: int)*: constructor
    - *addMobile(m:MobileDevice)*: this method adds the mobile device *m* to the company. It returns the string "Successfully added" if the mobile device *m* is added. Otherwise, it returns "Cannot be added".
    - *countMobileDevices(b:string):* this method counts and returns the number of mobile devices having the brand *b*.
    - *averagePricesOfSmartPhones():* this method calculates and returns the average price of the smart phones only.
    - *averagePricesOfSmartPhones(nbS:int, b:string):* this method calculates and returns the average price of the smart phones of the brand *b* and having *nbSim* greater than *nbS*.
    - *saveSmartPhones(sp:SmartPhone[], nbS:int):* this method saves the smart phones having *nbSim* greater or equal to *nbS* into the array *sp*, and returns the number of saved objects.

QUESTION: Translate into Java code the class *MobileDevice*, the class *SmartPhone,* and the class *Company.*