Day 6 - Workshop

1 - Banking - Saving Account Annual and Monthly Interest rate Calculation

- Create class ***SavingsAccount***.
- Use a static variable **annualInterestRate** to store the annual interest rate for all account holders.
- Each object of the class contains a private instance variable **savingsBalance** indicating the amount the saver currently has on deposit.
- Provide method **calculateMonthlyInterest** to calculate the monthly interest by multiplying the **savingsBalance** by **annualInterestRate** divided by 12 this interest should be added to **savingsBalance**. Provide a static method **modifyInterestRate** that sets the **annualInterestRate** to a new value.
- Write a program to test class ***SavingsAccount***.
- Instantiate two **savingsAccount** objects, saver1 and saver2, with balances of $2000.00 and $3000.00, respectively.
- Set **annualInterestRate** to 4%, then calculate the monthly interest and print the new balances for both savers.
- Then set the **annualInterestRate** to 5%, calculate the next month's interest and print the new balances for both savers.

2 - Creating a My Own Auto Shop

A. Create a super class called Car. The Car class has the following fields and methods.
   - int speed;
   - double regularPrice;
   - String color;
   - double getSalePrice();

B. Create a sub class of Car class and name it as Truck. The Truck class has the following fields and methods.
   - int weight;
   - double getSalePrice(); //If weight>2000,10%discount. Otherwise, 20% discount.

C. Create a subclass of Car class and name it as Ford. The Ford class has the following fields and methods
   - int year;

- int manufacturerDiscount;
- double getSalePrice(); //From the sale price computed from Car class,subtract the manufacturer Discount.

D. Create a subclass of Car class and name it as Sedan. The Sedan class has the following fields and methods.
    - int length;
    - double getSalePrice(); //If length>20 feet, 5% discount, Otherwise, 10% discount.

E. Create MyOwnAutoShop class which contains the main() method. Perform the following within the main() method.
    - Create an instance of Sedan class and initialize all the fields with appropriate values. Use super(...) method in the constructor for initializing the fields of the superclass.
    - Create two instances of the Ford class and initialize all the fields with appropriate values. Use super(...) method in the constructor for initializing the fields of the super class.
    - Create an instance of Car class and initialize all the fields with appropriate values. Display the sale prices of all instance.