# Lab: OOP

## Car Info

Create a class named Car.

The class should have **public** fields for:

* Brand: **text**
* Model: **text**
* Horsepower: **integer number**

**Create getters** and **setters** for each class field.

**Test the Program**

* The input consists of line - representing car object.
* You will have car info in the following format "**{brand} {model} {horsePower}**"separated by single space.
* Print car in the following format: **"The car is: {brand} {model} – {horsePower} HP."**

#### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| Chevrolet Impala 390 | The car is: Chevrolet Impala - 390 HP. |
| Skoda Karoq 150 | The car is: This Skoda Karoq - 150 HP. |

## Opinion Poll

* Create a **Person** class with two fields **name** and **age**.
* Write a program that uses line of personal information in the following format "**{name} {age}"**
* Print the data in the following format: **"{name} is {age} years old."**

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| Peter 12 | Peter is 12 years old. |
| Sofia 33 | Sofia is 33 years old. |

## Bank Account

Create class BankAccount.

The class should have **private fields** for:

* Id: **int** (Starts from **1** and **increments** for every **new** **account**)
* Balance: **double**
* Interest rate: **double** (Shared for all accounts. **Default value: 0.02**)

The class should also have **public** methods for:

* setInterestRate
* getInterest
* deposit

Create a test client supporting the following commands:

* **Create**
* **Deposit {Id} {Amount}**
* **SetInterest {Interest}**
* **GetInterest {ID} {Years}**
* **End**

### Examples

|  |  |  |
| --- | --- | --- |
| **Input** | **Output** | **Comments** |
| Create  Deposit 1 20  GetInterest 1 10  End | Account ID1 created  Deposited 20 to ID1  4.00 |  |
| Create  Create  Deposit 1 20  Deposit 3 20  Deposit 2 10  SetInterest 1.5  GetInterest 1 1  GetInterest 2 1  GetInterest 3 1  End | Account ID1 created  Account ID2 created  Deposited 20 to ID1  Account does not exist  Deposited 10 to ID2  30.00  15.00  Account does not exist | Sets the global interest rate to 1.  Prints interest for a bank account with id 1 for 1 year period. |

## Hierarchical Inheritance

Create three classes named Animal, Dog, and Cat.

* Animal with a single public method eat() that prints: **"eating…"**
* Dog with a single public method bark() that prints: **"barking…"**
* Cat with a single public method meow() that prints: **"meowing…"**
* Dog and Cat should inherit from Animal.