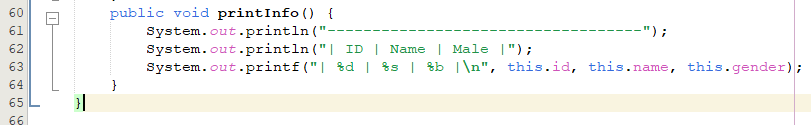
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| **Workshop 3** | **Type:** | **workshop** |
| **Code:** | **Pro192** |
|  |  |
| **Slot(s):** | **5-6-7** |

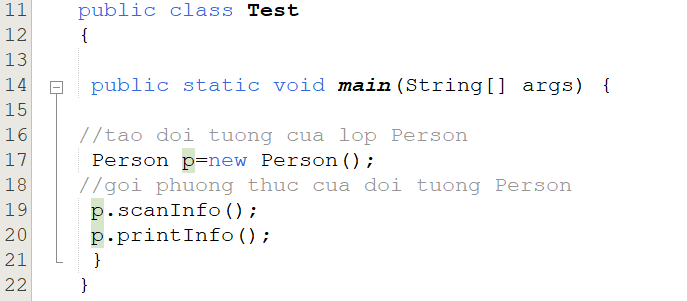
1. **Knowledge required**: Concept of Class, Object, Field, Property, Method, Constructor, ArrayList.
2. **Learning Outcome:**

* Apply Data abstraction to declare Class.
* Know how to build Class, initialize and use objects in Java.
* Applying encapsulation in OOP using access modifier and package organization.
* Practice coding and solving problems from the perspective of object-oriented programming.

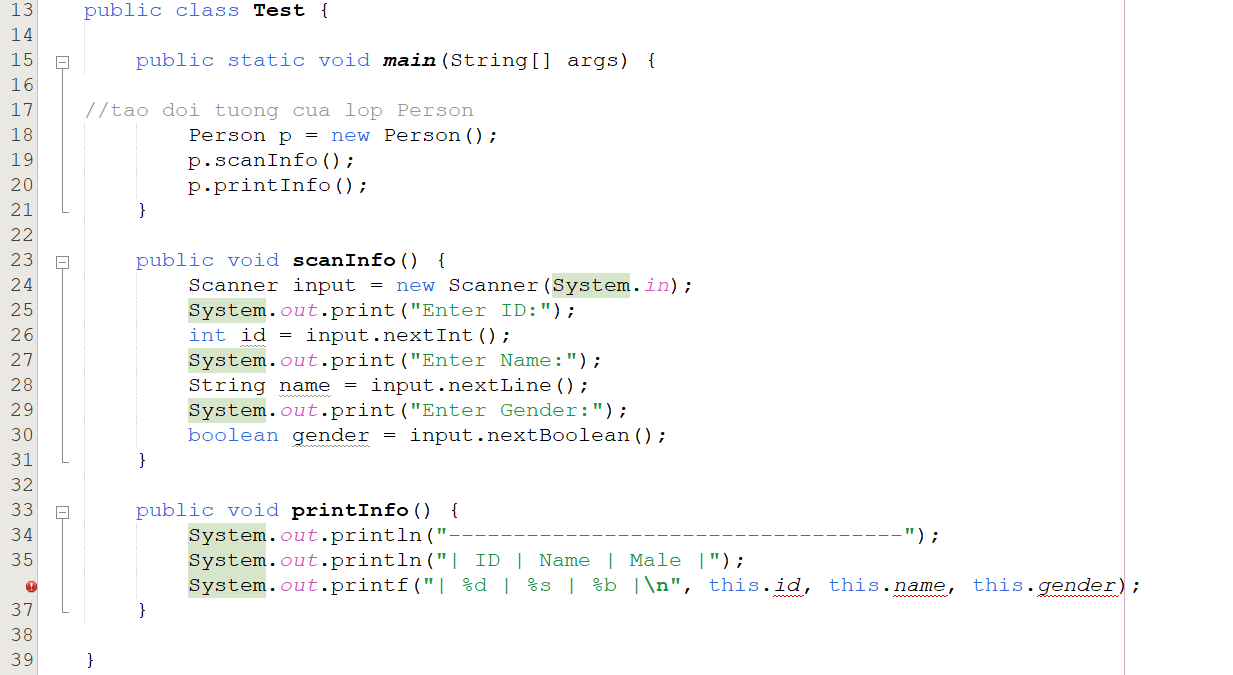
1. **Content**
2. Rewrite the following classes and fix all errors for the program

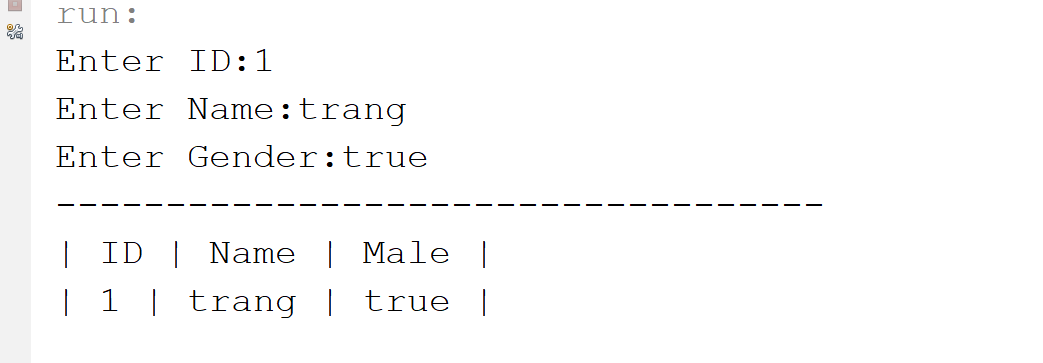
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1. Write scanInfo() and print intInfo() input function outside of Person class, fix the error to make the program run with the result as shown below:

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1. Use the code of the exercise 2 to write additional code to fulfill the following requirements:

* In class Test, initialize 2 more objects of Person class (Note: use constructor with value initialization arguments for Person class properties);

Example: Person p=new Person (01,"Nguyen Van A”, true);

* Declare an array named perArr with length = 4, assign the above 2 objects to the first 2 elements of the array;
* Write code allows the user to enter values for the remaining 2 elements of the array, traverse the array, and print out the elements of the array.

1. Use the code of the exercise 2 to write additional code to fulfill the following requirements:

* In class Test, Declare an ArrayList type of Person: initialize 2 more objects of Person class (Note: use constructor with value initialization arguments for Person class properties), use method add () for store above 2 objects in ArrayList;
* Write code allow user input data and initialize 2 more person objects save to the ArrayList;
* Write function sort ArrayList by name only (Note: Use only the knowledge that you have learned).
* Write function search an object in Array List by name ((Note: Use only the knowledge that you have learned).

1. Rubric

|  |  |
| --- | --- |
| **Criteria** | **Score** |
| Lesson 1 | 1 |
| Lesson 2 | 2 |
| Lesson 3 | 3 |
| Lesson 4 | 4 |
| Sum | 10 |