

Mục tiêu: Sau bài thực hành này, học viên sẽ biết cách :

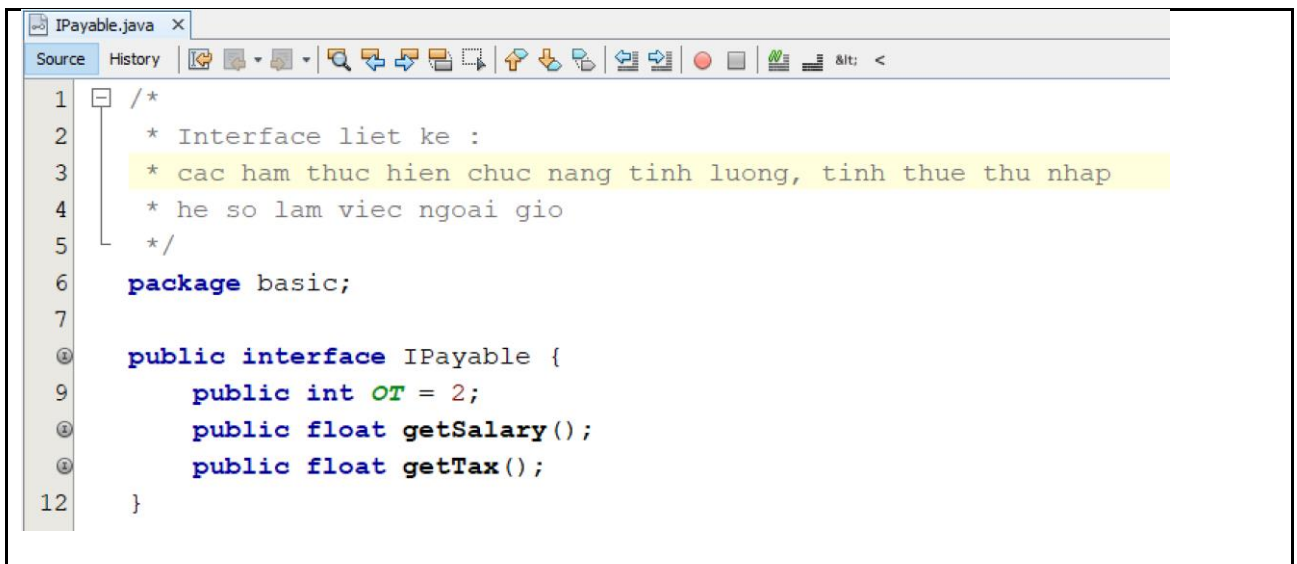
- Lập trình Interface.
- Xử lý các lỗi sai exception

Bài tập:

Viết chương trình tính lương công nhân, bằng cách xây dựng class Worker - hiện thực chức năng của interface IPayable

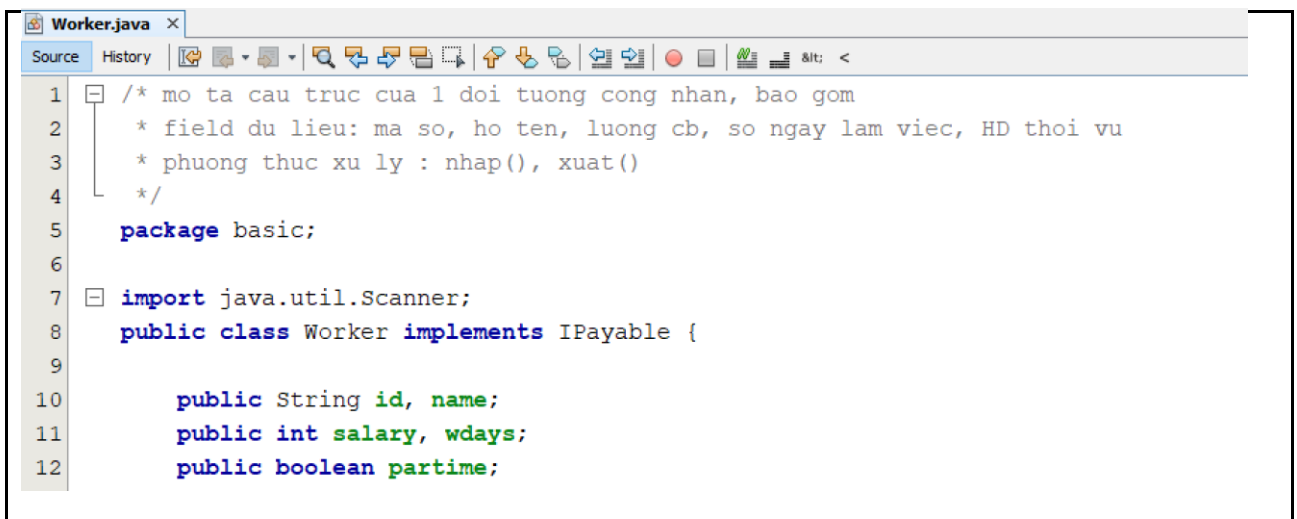
HD thực hiện:

- Mở Netbean, Tạo **project Java Application**, đặt tên **d07_interface** (nhớ bỏ check **Create Main Class**)
- Trong project **d07_interface**, tạo **package basic**
- Trong **package basic**, tạo **Java Interface IPayable**
- Viết code cho interface **IPayable**



```
1  /*
2   * Interface liệt kê :
3   * các hàm thực hiện chức năng tính lương, tính thuế thu nhập
4   * hệ số làm việc ngoài giờ
5   */
6  package basic;
7
8  public interface IPayable {
9      public int OT = 2;
10     public float getSalary();
11     public float getTax();
12 }
```

- Trong **package basic**, tạo **Java Class Worker**, hiện thực các hàm chức năng của interface **IPayable**
- Viết code cho class **Worker**, override các phương thức **getSalary()**, **getTax()**



```
1  /* mô tả cấu trúc của 1 đối tượng công nhân, bao gồm
2   * field dữ liệu: mã số, họ tên, lương cb, số ngày làm việc, HD thôi việc
3   * phương thức xử lý: nhập(), xuất()
4   */
5  package basic;
6
7  import java.util.Scanner;
8  public class Worker implements IPayable {
9
10     public String id, name;
11     public int salary, wdays;
12     public boolean parttime;
```

LAB GUIDE 9 – Interface - Exception

```

13
14 public Worker() {
15 }
16
17 public Worker(String id, String name, int sal, int days, boolean partime) {
18     this.id = id;
19     this.name = name;
20     this.salary = sal;
21     this.wdays = days;
22     this.partime = partime;
23 }
24
25 public void input() {
26     Scanner sc = new Scanner(System.in);
27     System.out.print("nhap ma so : ");
28     id = sc.nextLine().trim();
29     System.out.print("nhap ho ten : ");
30     name = sc.nextLine().trim();
31
32     while (true) {
33         try {
34             System.out.print("nhap luong co ban : ");
35             salary = Integer.parseInt(sc.nextLine().trim());
36             break;
37         } catch (Exception e) {
38             System.out.println("Loi: " + e.getMessage());
39         }
40     }
41
42     while (true) {
43         try {
44             System.out.print("nhap so ngay lam viec : ");
45             wdays = Integer.parseInt(sc.nextLine().trim());
46             break;
47         } catch (Exception e) {
48             System.out.println("Loi: " + e.getMessage());
49         }
50     }
51
52     System.out.print("Hop dong thoi vu (y/n) ? : ");
53     partime = sc.nextLine().trim().equalsIgnoreCase("y");
54 }
55
56 @Override
57 public float getSalary() {
58     return salary * wdays / 24.0f;
59 }
60
61 @Override
62 public float getTax() {
63     float temp = 0;
64     if (partime == false && getSalary() > 500) {
65         temp = getSalary() * 0.1f;
66     }
67     return temp;
68 }
69

```

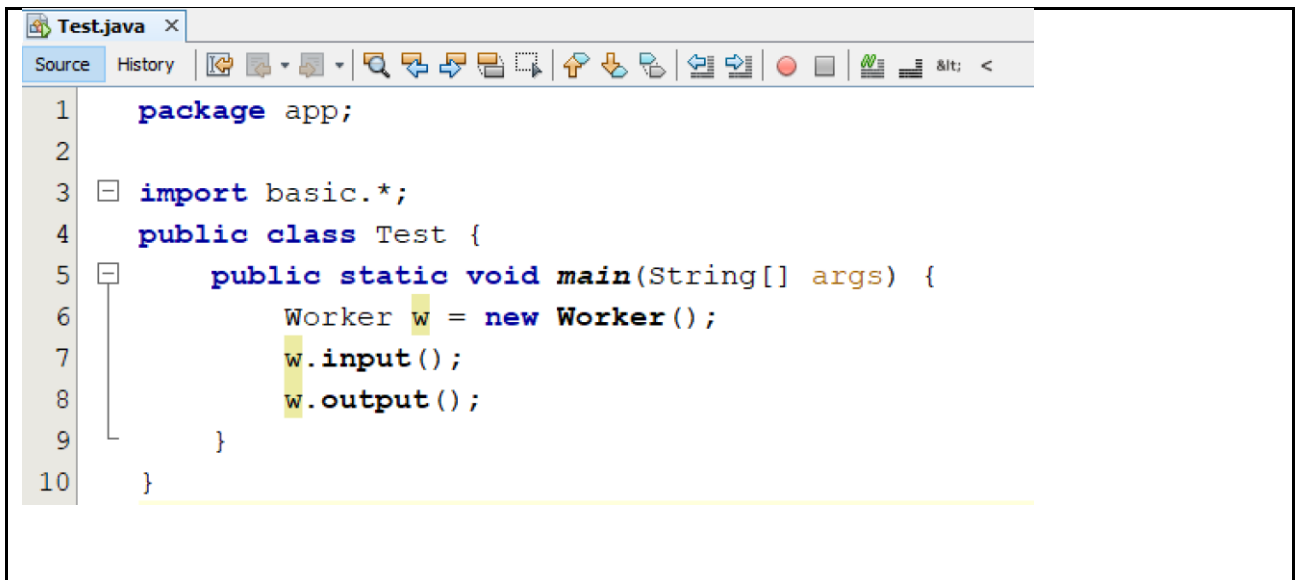
LAB GUIDE 9 – Interface - Exception

```

70     public void output() {
71         System.out.println(" >> bang luong cong nhan :");
72         System.out.println(" id: " + id);
73         System.out.println(" ten: " + name);
74         System.out.println(" luong cb: " + salary);
75         System.out.println(" so ngay lam viec: " + wdays);
76         System.out.println(" thoi vu : " + partime);
77         System.out.println(" luong thang: " + getSalary());
78         System.out.println(" thue thu nhap: " + getTax());
79         System.out.println(" thuc lanh: " + (getSalary() - getTax()));
80     }
81
82     @Override
83     public String toString() {
84         return String.format("%s, %s, %.2f", id, name, getSalary() - getTax());
85     }
86
87 }

```

- Tạo java main class **Test**, trong package **app**, để kiểm thử lớp Worker
- Viết code cho class **Test**



```

1  package app;
2
3  import basic.*;
4  public class Test {
5      public static void main(String[] args) {
6          Worker w = new Worker();
7          w.input();
8          w.output();
9      }
10 }

```

- Bấm Shift+F6 để biên dịch và chạy thử chương trình

Assignment

Write a Java application - **Inventory System** - to manage the list of televisions with the specification as follows:

1	<p>Creates an abstract class named Product in package Goods.</p> <ul style="list-style-type: none"> - Protected Fields id, name - Public constructor to initialise the above fields. - Method: <ul style="list-style-type: none"> - Protected void accept() : allow user input data into data fields. - Public abstract void printInfo() : abstract method used to print details of an product.
2	<p>Create an interface ITax in package Goods , consists of:</p> <ul style="list-style-type: none"> - Field VAT_TAX_PERCENT = 0.1 f - Method: <ul style="list-style-type: none"> public float getCost(): returns the cost of a product after TAX.
3	<p>Create class Television derives from Product and implements ITax, in package Electronics.</p> <ul style="list-style-type: none"> - Fields: pprice, QoH (quantity on hand) and brand. - Constructors to initialise the all fields. - Override methods: <ul style="list-style-type: none"> protected void accept() : allow user to input additional details of a television invoke method accept() of super class. public String toString() : return a string presenting all the details of a product as follows: <i>id, name, price, QoH, cost, amount</i> (=cost*QoH, cost: price after TAX)
4	<p>Create class TelevisionCatalog in package Electronics for managing a collection of Televisions:</p> <ul style="list-style-type: none"> - Fields: <ul style="list-style-type: none"> [max, count] int, tvList – array of Television. - Default constructor to initialise the all the fields. - Methods: <ul style="list-style-type: none"> - Public void add() - add a new television into array - Public void searchByBrand() - search televisions belong a brand name accepted by user. - Public void displayAll() - display all televisions. - Public void displayHighValue() – display televisions with the price above 500.
5	<p>Create main class Inventory in package Application that allows user to manage the televisions accepted into system through the menu system as follows:</p> <ol style="list-style-type: none"> 1. Add a new television 2. Search televisions by brand 3. Display all televisions 4. Display high-valued televisions 5. Exit