In each of the following Java examples there are more than one error. Indicate these errors and give your comment (why you consider it as an error?). (***Give a possible solution under each example***).

Example1

```
public interface Interface1 {
       public void g();
       public void f();
}
```

```
public class Class1 implements Interface1{
       private int a =2;
        public Class1(){}
        public void g("Hi"){
              System.out.println("Hi");
        }
        public int f(){return a;}
}
```

Example2

```
public abstract class Abstract1 {
       protected int a =2;
        public Abstract1(){}
        public void g(){
              System.out.println("Hi");
        }
        Public abstract int f(){};
}
```

```
public class Class1 extends Abstract1{
        public Class1(){}
        public int f(){return a;}
}
```

```
public class AbstractDriver1 {
    public static void main(String[] args){
         Abstract1 x = new Abstract1();
         Class1 y = new Class1();
    }

}
```

Example3

```
abstract public class Class1 {
    protected int a = 0;

    public Class1(){
        System.out.println("Welcome to Class1");
    }

    public Class1(int a){
        this.a = a;
        System.out.println("Welcome to Class1");
    }
    abstract  public void f( );
}
```

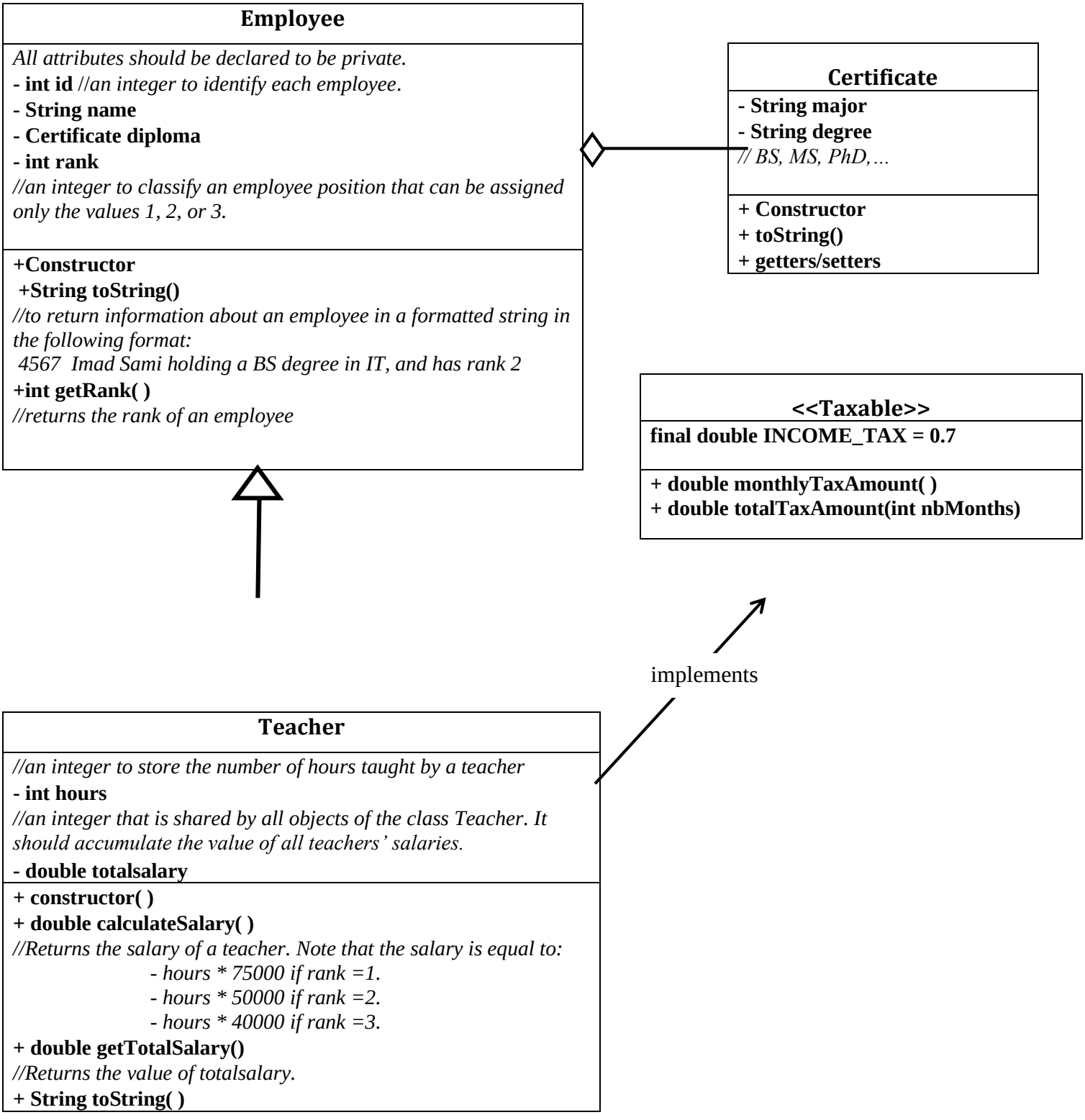
```
public class Class1_1 implements Class1 {

    public Class1_1(){
        System.out.println("Welcome to Class1_1");
    }

    public Class1_1(int a){
        System.out.println("Welcome to Class1_1");
        super(a);
    }
}
```

Question 2

We consider the following one interface: **Taxable**, and three classes: **Certificate**, **Employee**, and **Teacher**.



```
//Returns  information about a teacher as follows:
   4239 Roger Eid holding a MS degree in CCE and has rank 2
   Hours  = 30, Salary = 1500000.
```

a) Write the interface Taxable by specifying its attributes and methods.

b) Write the class Certificate by:
   1- declaring all its attributes.
   2- defining its constructor.
   3- writing the attributes' setters and getters
   4- implementing its toString( )

c) Write the class Employee by:
   1- declaring all its attributes.
   2- defining its constructor.
   3- implementing its toString( )
   4- writing the getRank() method

d) The class Teacher is a subclass of Employee. In plus, it should implement the interface Taxable. Write the class Teacher by:
   1- declaring all its attributes.
   2- defining its constructor.
   3- implementing its toString( ) method
   4- writing a possible implementation for the methods of the interface Taxable
      Note: the ***nbMonths*** argument of the method ***totalTaxAmount(int nbMonths)*** represents the number of months for which we would like compute the total sum of taxes.
   5- writing the calculateSalary() method
   6- writing the getTotalSalary() method

.Writing a driver class. In this class you are asked to create two methods:

a) The method main( ), in which:

1- create an array of 3 objects of type **Teacher** using data input by the programmer (not the user)

2- display information about each object using the toString( ) method of the class Teacher.

3- display the total salary of all teacher in this array.

4- display information about the teacher with the highest salary in the array by calling the method *displayMaximum( )* that you are asked to write in the next part b).

b) The method *public void displayMaximum(Teacher [ ] list)* that receives an array of teachers to display information about the teacher with the highest salary.