Lab 05 Selected Answers

Exercise One

Which of the following casts are valid?
1. Scanner eg2 = new PrintOmatic();
Invalid, PrintOmatic does not implement Scanner.
2. Printer eg3 = new OverpricedAllInOnePrinterfier();
Valid.
3. OverPricedAllInOnePrinterfier eg4 = new Printer();
Invalid, you cannot create an instance of an interface.
4. Printer eg1 = new Scanner();
Invalid, you cannot create an instance of an interface.

Exercise Two

industry_lab_05_solutions.zip

Exercise Three

1. What is the output when you run the following code?

```
The Base object

S1.x = 10

S1.y = 12

S1.foo() = 10

S1.goo() = 12



The Derived object



Inherited fields
```

```
T1.x = 11
T1.y = 12
T1.foo() = 11
T1.goo = 12


The instance/class fields
T1.x2 = 20
T1.y2 = 21
T1.foo2() = 20
T1.goo2() = 21
```

2. What is the output when you run the following code? (The superClass will remain the same)

```
The static Binding
S2.x = 10
S2.y = 11
S2.foo = 10
S2.goo = 11
```

3. To which class is the method s2.goo() called?

SuperClass

4. What is the static type of variable s2?

SuperClass

5. Are we able to make a call to method foo2() from variable s2?

No, we can't make a call to foo2(), unless we cast s2 as (Test1) s2.

6. What is the result from the following line of code?

Compile-time error. Type mismatch.

7. What is the result from the following line of code?

Run-time error. Compiler type-checking lets this pass but an exception is thrown at runtime of type ClassCastException.