Solution to CSE143 Section #11 Problems

1.

Statement	Output
var1.method1();	bar 1 / foo 1 / baz 2
((Baz)var2).method2();	runtime error
((Bar)var2).method2();	bar 2

2.

Statement	Output
var1.method2();	Second2
var2.method2();	Third2
var3.method2();	Fourth2
var4.method2();	Third2
var5.method2();	compiler error
var6.method2();	compiler error
var1.method3();	Second2
var2.method3();	Third2
var3.method3();	Fourth2
var4.method3();	Third2
var5.method3();	compiler error
var6.method3();	compiler error
((Second)var4).method1();	compiler error
((Third)var4).method1();	Third1/Second2
((Second)var5).method2();	runtime error
((First)var5).method3();	Fourth2
((Third)var5).method1();	runtime error
((First)var6).method3();	Second2
((Second)var6).method1();	compiler error
((Second)var6).method3();	Second2

3.

Statement	Output
var1.method1();	harry 1
var2.method1();	larry 1/harry 1
var3.method1();	larry 1/harry 1
var4.method1();	larry 1/harry 1
var5.method1();	larry 1/harry 1
var6.method1();	compiler error
var1.method2();	harry 1/harry 2
var2.method2();	larry 1/harry 1/harry 2
var3.method2();	mary 2/jerry 2
var4.method2();	mary 2
var5.method2();	mary 2/jerry 2
var6.method2();	compiler error
var3.method3();	compiler error
var5.method3();	larry 1/harry 1/mary 3
((Larry)var1).method1();	runtime error
((Mary)var2).method2();	runtime error

```
        ((Jerry)var5).method1();        larry 1/harry 1
        ((Mary)var3).method3();         larry 1/harry 1/mary 3
        ((Jerry)var4).method3();        runtime error
        ((Mary)var6).method3();         runtime error
```

4.

```
        Statement                       Output
        -------------------------------------------------
        var1.method1();                 foo 1/bar 2
        var2.method1();                 baz 1/mumble 1
        var3.method1();                 foo 1/bar 2
        var4.method1();                 baz 1
        var5.method1();                 baz 1/mumble 1
        var6.method1();                 compiler error
        var1.method2();                 bar 2
        var2.method2();                 baz 2/baz 1/mumble 1
        var3.method2();                 bar 2
        var4.method2();                 baz 2/baz 1
        var5.method2();                 baz 2/baz 1/mumble 1
        var6.method2();                 compiler error
        var3.method3();                 bar 3
        var5.method3();                 compiler error
        ((Bar)var1).method3();          bar 3
        ((Mumble)var4).method3();       runtime error
        ((Mumble)var5).method3();       mumble 3
        ((Bar)var2).method3();          runtime error
        ((Baz)var2).method2();          baz 2/baz 1/mumble 1
        ((Mumble)var6).method2();       runtime error
```

5. Details of Inheritance. The output produced is as follows.

```
        Statement                       Output
        -------------------------------------------------
        var1.method2();                 Fo 2/Fie 3/Fum 3
        var2.method2();                 compiler error
        var3.method2();                 Fo 2/Fee 3
        var4.method2();                 compiler error
        var5.method2();                 compiler error
        var6.method2();                 Fo 2/Fum 3
        var1.method3();                 Fie 3/Fum 3
        var2.method3();                 compiler error
        var3.method3();                 Fee 3
        var4.method3();                 compiler error
        var5.method3();                 compiler error
        var6.method3();                 Fum 3
        ((Fee)var3).method1();          Fee 1/Fo 3
        ((Fee)var4).method1();          runtime error
        ((Fie)var1).method2();          Fo 2/Fie 3/Fum 3
        ((Fo)var3).method3();           Fee 3
        ((Fie)var6).method2();          runtime error
        ((Fo)var2).method3();           Fum 3
```

```
((Fie)var3).method1();          runtime error
((Fo)var5).method2();           Fo 2/Fo 3
```