CSE 461: Programming Languages Concepts

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1. Answer questions based on the following Java program:

```
class Foo {
    Foo () {}
    public void m(Foo f) {System.out.println(''Foo.m(Foo)'');}
    public void m(Bar b) {System.out.println(''Foo.m(Bar)'');}
}

class Bar extends Foo {
    Bar () {}
    public void m(Bar b) {System.out.println(''Bar.m(Bar)'');}
}


...
Foo fb = new Bar();
Bar b = new Bar();
...
```

What is the result for each of the following method calls? Briefly explain why in each case.

- fb.m(fb)
- b.m(b)

2. Answer this question based on the following Java program:

```
class A {
  public int foo () { return 1;}
  public void message () { System.out.println( "A"); }
}
class B extends A {
  public int foo() {return 2;}
}
class C extends A {
  public void message () { System.out.println( "C"); }
```

```
}
...
A a = new A();
B b = new B();
C c = new C();
```

Draw objects a, b, c and their vtables (virtual tables) in the style of the textbook. See Fig. 10.2 and 10.3 of the fourth edition of the book by Scott; those two figures are also included in slides posted in Canvas (the slides with classes foo and bar).