

Activity (2 items x 5 points)

1. Find the statement that causes the compilation error.
2. Determine the output if that statement is removed.

```
class A {  
    public void test() {  
        System.out.print("A");  
    }  
}  
class B extends A {  
    public void test() {  
        System.out.print("B");  
    }  
}
```

```
public class C extends A {  
    public void test() {  
        System.out.print("C");  
    }  
    public static void main(String[] args) {  
        A b1 = new A();  
        A b2 = new C();  
        b1 = (A)b2;  
        A b3 = (B)b2;  
        b1.test();  
        b2.test();  
    }  
}
```

The statement causing the compilation error is the `A b3 = (B)b2;` This line attempts to cast an object of type A (which is actually a C object) into a B object. Since B is not a subtype of C (they are siblings in the inheritance hierarchy), this is an invalid downcast and results in a **ClassCastException**.