

1. What does this code output?

```
public class Polymor {
    class A {
        public String show(D obj) {
            return ("A and D");
        }
        public String show(A obj) {
            return ("A and A");
        }
    }
    class B extends A {
        public String show(B obj) {
            return ("B and B");
        }
        public String show(A obj) {
            return ("B and A");
        }
    }
    class C extends B {}
    class D extends B {}

    public static void main(String[] args) {
        Polymor outerclass = new Polymor();
        A a1 = outerclass.new A();
        A a2 = outerclass.new B();
        B b = outerclass.new B();
        C c = outerclass.new C();
        D d = outerclass.new D();
        System.out.println("1:" + a1.show(b));
        System.out.println("2:" + a1.show(c));
        System.out.println("3:" + a1.show(d));
        System.out.println("4:" + a2.show(b));
        System.out.println("5:" + a2.show(c));
        System.out.println("6:" + a2.show(d));
        System.out.println("7:" + b.show(b));
        System.out.println("8:" + b.show(c));
        System.out.println("9:" + b.show(d));
    }
}
```

}

2. Can the following code run successfully? If not, where is the error?

```
public class Box<T extends Integer> {
    private T t;
    public void set(T t) {
        this.t = t;
    }
    public T get() {
        return t;
    }
    public <U extends Number> void inspect(U u){
        System.out.println("T: " + t.getClass().getName());
        System.out.println("U: " + u.getClass().getName());
    }
    public static void main(String[] args) {
        Box<Integer> integerBox = new Box<Integer>();
        integerBox.set(new Integer(10));
        integerBox.inspect("some text");
    }
}
```

3. Can a class implement different instantiations of the same generic interface? If so, give an example.
4. What does `< ? >` mean, and how does its definition change between `< ? extends T >` and `< ? super T >`, for some type `T`?