Homework 5 Collaboration

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Problem 1:
Which of the B.m methods below are function subtypes of A.m? For each of the B.m methods answer whether the method would overload or override A.m in Java.

```
class A
{
        Object m(X y, String s);
}
```

X m(X y, String s); is a subtype of A.m and it overrides it.
Y m(Object y, Object s); is a subtype of A.m and it overloads it.
Object m(X y, String s) throws RuntimeException; is not a subtype of A.m and it overrides it.
Z m(Y y, String s); is not a subtype of A and it overloads it

Problem 2. For each pair of specifications below, answer whether the extending class is a true subtype of its superclass. Explain your answer.

1. IsoscelesTriangle is not a true subclass because it does not have a stronger specification than Triangle, and its specifications don't imply the other's.

2. Squid is not a true subclass because it does not have a stronger specification since Vertebrae asks for >0 and Squid returns 0, they are different. Since squid is not it does not matter that Human is since it is stronger.

3. MountainBike is a true subclass of Bicycle because it can be substituted when a Bicycle object is expected since it has all the same parameters as Bicycle and access to its functions because of extend.

4. ConcurrenceAccount is not a true subtype because it throws an exception the user is expecting or ready to handle, so it cannot be a true subtype.