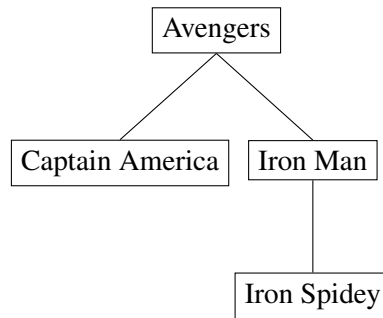


1 Infinity War

Consider the hierarchy of classes shown in the following diagram.



Avengers is specified as an abstract class as shown in the following declaration. Each avenger has a name that is specified upon construction.

```
public abstract class Avenger {  
    private String name;  
    public Avenger(String name) {  
        this.name = name;  
    }  
    public String getName() {  
        return name;  
    }  
    public abstract String fight();  
}
```

The subclass Iron Man has the partial class declaration below.

```
public class IronMan extends Avenger {  
    public IronMan(String avengerName) {  
        /* implementation not shown */  
    }  
    public String fight() {  
        /* implementation not shown */  
    }  
}
```

- a. Given the class hierarchy shown above, write a complete class declaration for the class "Captain America", including implementations for its constructor and method(s). The "Captain America" method fight returns "We do not trade lives" when it is invoked.

- b. Given the declaration of the IronMan class, if the string "magic" is returned by the IronMan method fight, then the IronSpidey method fight returns a String containing "magic" repeated two times.

Given the class hierarchy shown previously, write a complete class declaration for the class IronSpidey, including implementations of its constructors and method(s).

- c. Consider the following partial declaration of the class AvengerHouse.

```
public class AvengerHouse {
    private List<Avengers> avengersList;

    /** For every Avenger in the AvengerHouse,
    prints the avenger name followed by the result
    of a call to its fight method, one line per
    avenger. */
    public void assemble() {
        /* to be implemented in part c */
    }
}
```

Write the AvengerHouse method assemble. In writing this method, you may use any of the methods defined for any of the classes specified for this problem.

```
public void assemble() {}
```