power
Capacity

Rack

Component — powerReq

CapacityExceeded

```java
public class Rack {
    private float powerCapacity = 500;
    private float powerReqSum = 0;
    ...
    public void addComponent(Component comp)
    throws CapacityExceeded {

        if (powerReqSum + comp.getPowerReq
                > powerCapacity) then
        {
            throw new CapacityExceeded(...)
        }

    }
}
```

declaration of potentially throwing an exception
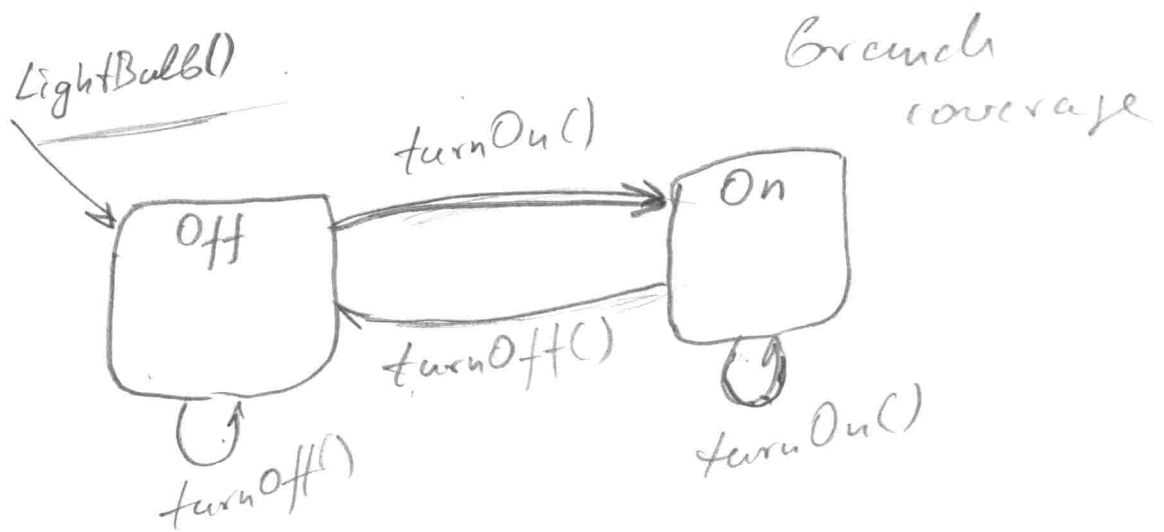
```java
try {
    rack.addComponent(comp);
}
catch (CapacityExceeded ex) {      ex.getMessage
        System.out.println("capaci...
}
```

```java
public class LightBulb {
    private boolean state = false;
    public LightBulb() {
        state = false; }
    public void turnOn(){ state = true; }
    public void turnOff(){ state = fals; }
}
```

Branch coverage

LightBulb()

turnOn()

Off   On

turnOff()

turnOff()

turnOn()

1. (turnOn();)
   assertEquals(state, true); // assertTrue(state)

2. turnOn();
   turnOff();
   assertEquals(state, false); // assertFalse(state)

3. turnOff();
   assertFalse(state);

4. turnOn();
   turnOn();
   assertTrue();