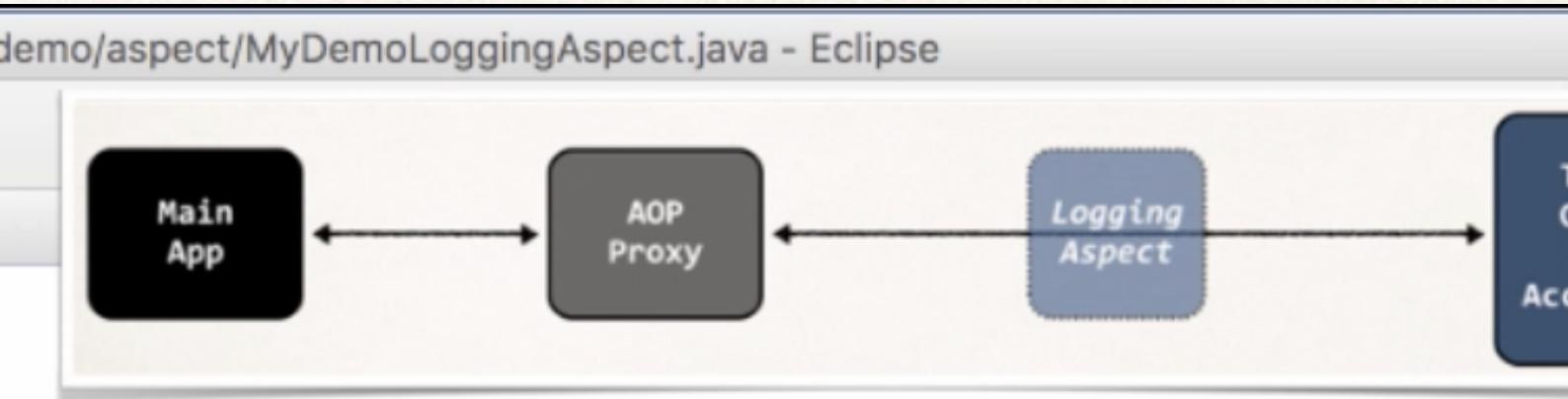


AOP - Pointcut Expressions



I made a promise to you ...



The diagram illustrates the AOP architecture. It shows four components: 'Main App', 'AOP Proxy', 'Logging Aspect', and 'Target Object'. The 'Main App' and 'AOP Proxy' are connected by a double-headed arrow. The 'AOP Proxy' and 'Logging Aspect' are also connected by a double-headed arrow. A single-headed arrow points from the 'Logging Aspect' to the 'Target Object'. This visualizes how the aspect (Logging Aspect) intercepts the call to the target object (AccountDAO) through the proxy.

```
5
6 @Aspect
7 @Component
8 public class MyDemoLoggingAspect {
9
10    // this is where we add all of our related advices for logging
11
12    // let's start with an @Before advice
13
14    @Before("execution(public void addAccount())")
15
16 }
```

A red arrow points to the closing brace '}' at line 16, indicating the end of the aspect class definition.

Run this code BEFORE - target object method: "public void addAccount()"

Pointcut expression

AOP Terminology

- **Pointcut:** A predicate expression for where advice should be applied

Pointcut Expression Language

- Spring AOP uses AspectJ's pointcut expression language
- We will start with **execution** pointcuts
 - Applies to execution of methods

Match on Method Name

Pointcut Expression Language

```
execution(modifiers-pattern? return-type-pattern declaring-type-pattern?  
method-name-pattern(param-pattern) throws-pattern?)
```

- The pattern is optional if it has “?”
- Patterns can use wildcards

Pattern Wildcards

**execution(modifiers-pattern? return-type-pattern declaring-type-pattern?
method-name-pattern(param-pattern) throws-pattern?)**

- For the patterns, can use wildcard: * (matches on everything)

Pointcut Expression Examples

Match on method names

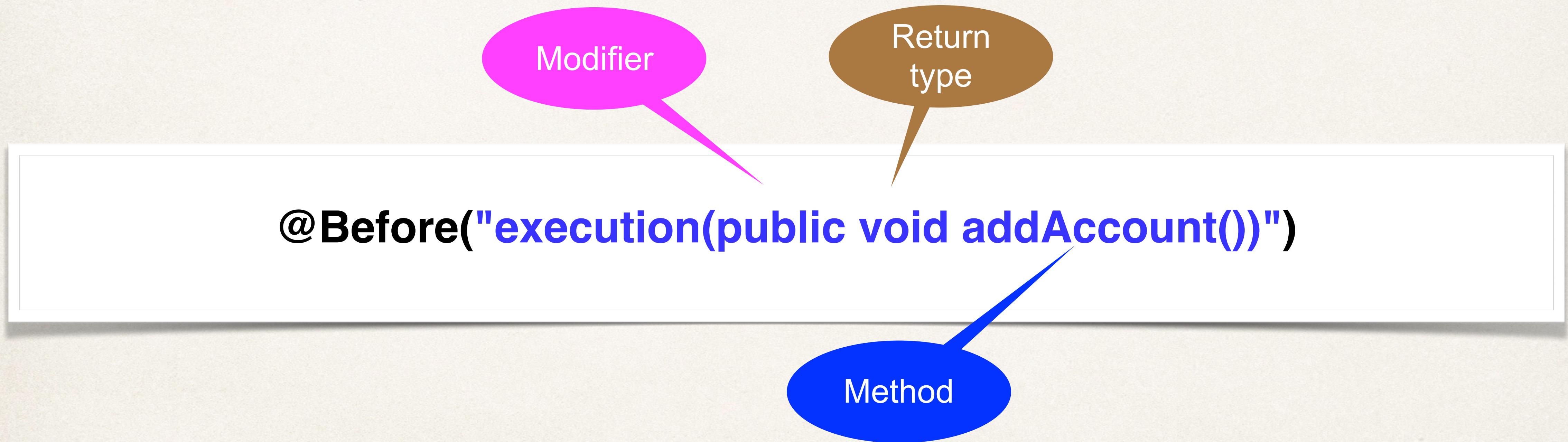
- Match only **addAccount()** method in **AccountDAO** class



Pointcut Expression Examples

Match on method names

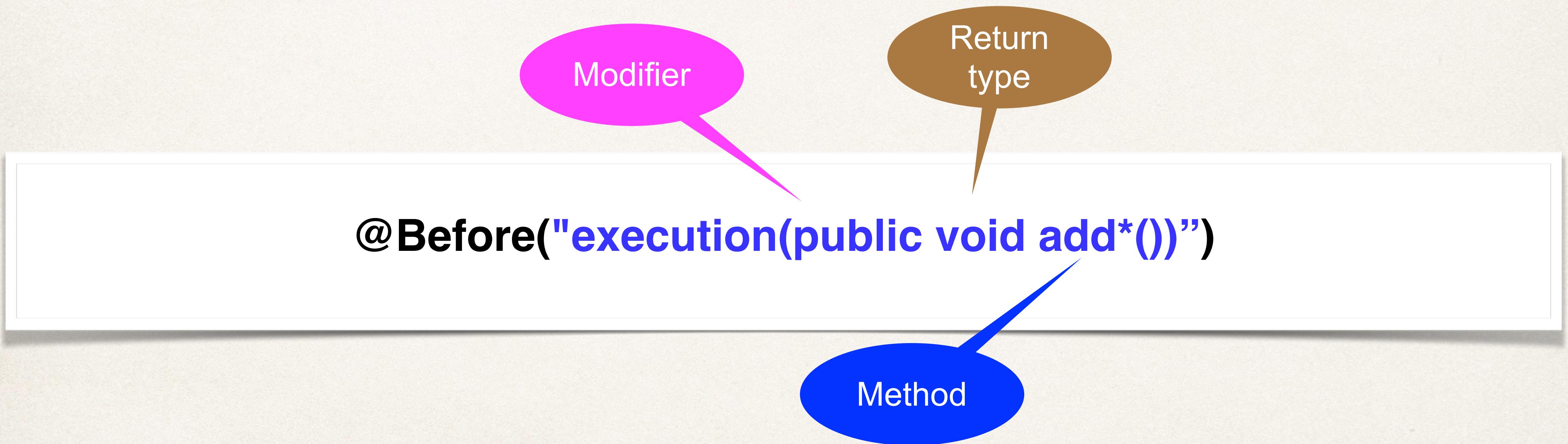
- Match any **addAccount()** method in **any** class



Pointcut Expression Examples

Match on method names (using wildcards)

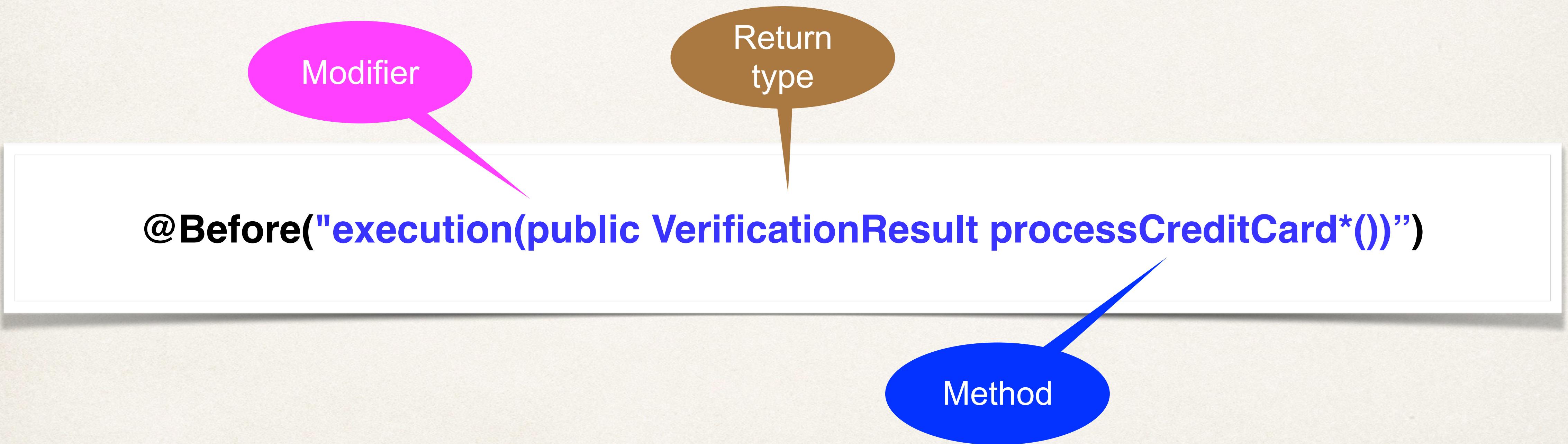
- Match methods **starting** with **add** in any class



Pointcut Expression Examples

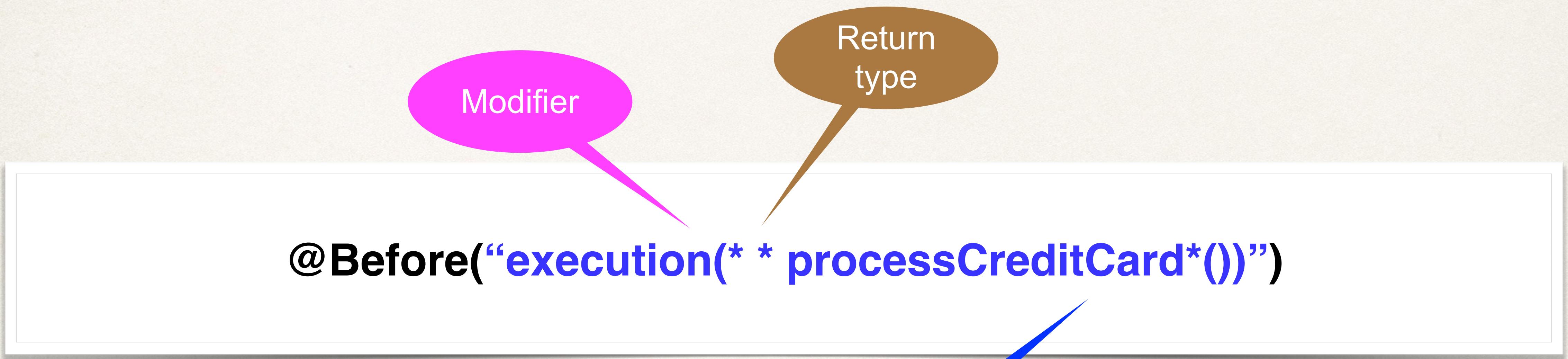
Match on method names (using wildcards)

- Match methods starting with **processCreditCard** in any class



Pointcut Expression Examples

- Use wildcards on modifier and return type



Pointcut Expression Examples

- Modifier is optional ... so you don't have to list it

