Java Annotation Cheat Sheet

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Define an Annotation

```
@Retention(RUNTIME) //RetentionPolicy
@Targe t(TYPE) //Elem entType
public @interface MyAnnot {
      boolean value() default false;
      String name();
}
```

Annotation for Classes, Eums and Interfaces available for Reflection

RetentionPolicy

CLASS	Compiled into .class No Reflection
RUNTIME	Available for Reflection
SOURCE	Only in Source Dropped for Compilation

ElementType

TYPE	Class, Interface, Enum
FIELD	Class fields
METHOD	Methods no Constructor
PARAMETER	Any Param of a Method/Constructor
CONSTR UCTOR	Only Constructors
LOCAL_ VAR IABLE	only Local Vars
ANNOTA TIO N_TYPE	valid for other Annotations
PACKAGE	Annotation for Package

PACKAGE annotations should only be in packag e-i nfo.java

Extract Annotation from Class

getAnn ota tio n(C las s<A> aClass)	in this class or from parent
getDec lar edA nno tat ion (Cl ass <A> aClass)	only declared in this class
getAnn ota tions()	array of Annotations
getDec lar edA nno tat ions()	array of Annotations

Extract Fields and Methods

```
get[De cla red ]Fi eld (String name)
```

```
get[De cla red ]Me tho d(S tring name, Class< ?>... p
er Types)
```

```
getCon str uct ors()
```

```
get[De cla red ]Fi elds()
```

```
get[De cla red ]Me thods()
```

getDec lared... always points to exactly this Object only including private, without Declared any super can also match but only public ones.

Extract Field information

getName()	
getType()	
getMod ifi ers()	
get(Object obj)	extract field value from obj
set(Object obj, Object val)	set field to value

Primitives are available e.g.: getInt (obj), setInt (obj, val)

Method Functions

getName()	
getPar ame ter Types()	Class Array of Types
getRet urn Type()	
invoke (Object obj, Object... args)	Call Method

Constructors

Object.cl ass.ne wIn sta nce()	utilizes Default Constructor of an Class object
const.n ew Ins tan ce(Obj ect.... args)	utilizes one of the extracted Constr-uctors

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