

# Generating the Blueprints of the Java Ecosystem

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This work presents the dataset obtained by statically analysing a set of projects (*11,365 projects*) of the Maven Central Repository by three static analysis tools; Cross-Lanugage Metric Tool (CLMT), Chidamber and Kemerrer Java Metrics Tool (CKJM), and JDepend. These tools cover four aspects of a software project; class design, method design, package design and program size.

11,365 projects

22,730 Jars

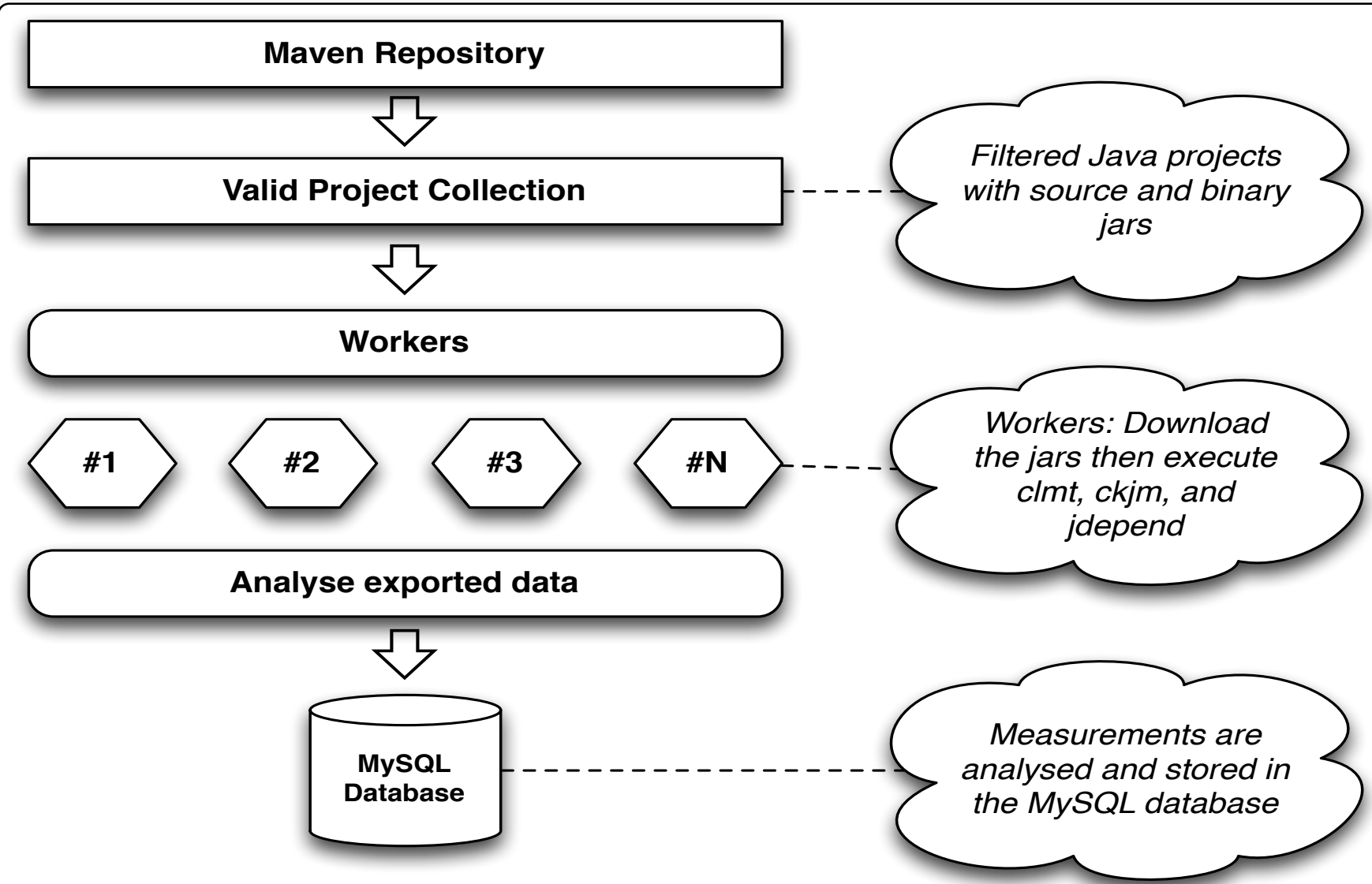
74,565,772 LoC

446,749 Artifacts

65 Metrics

32,844,836 Measurements

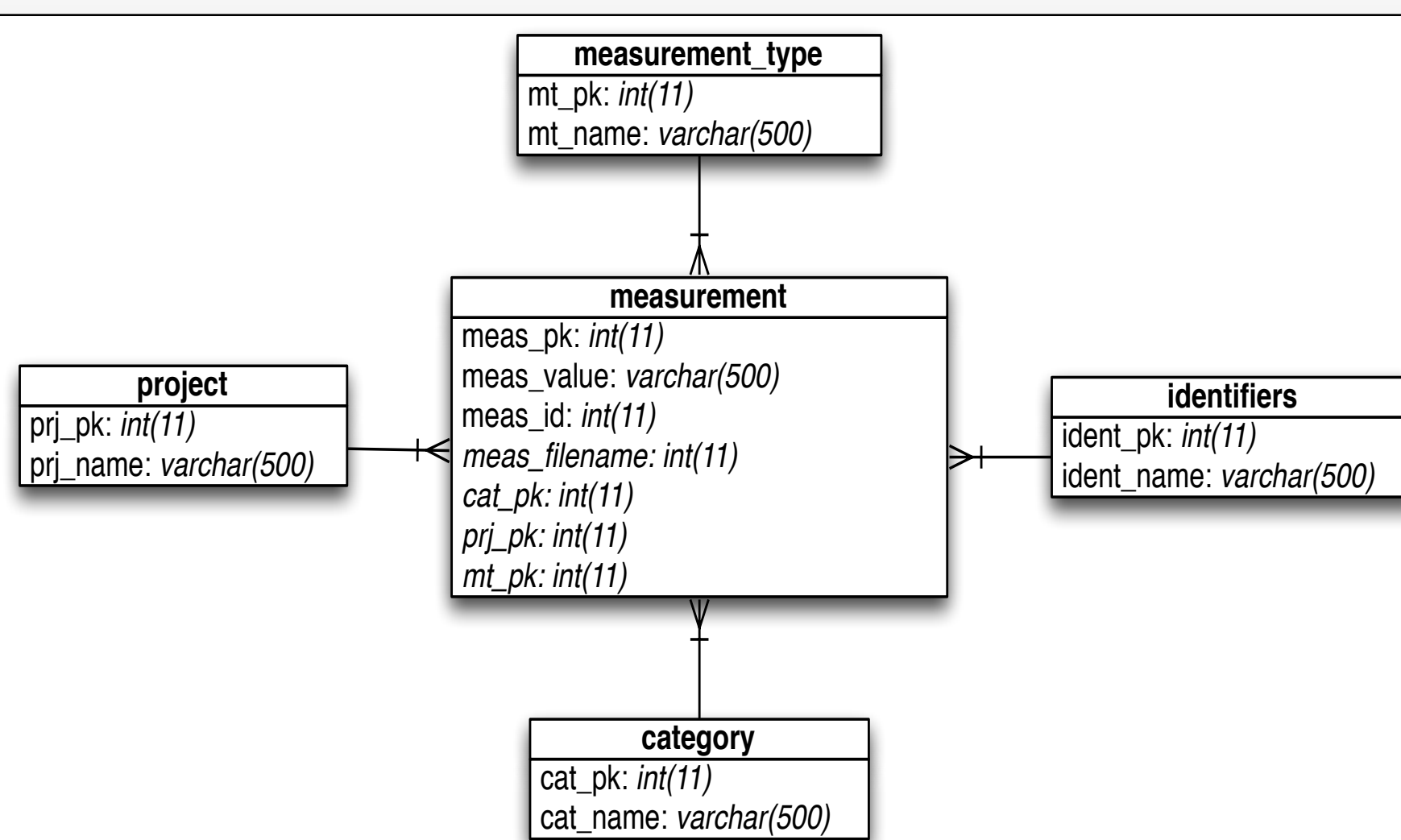
## Dataset Construction Process



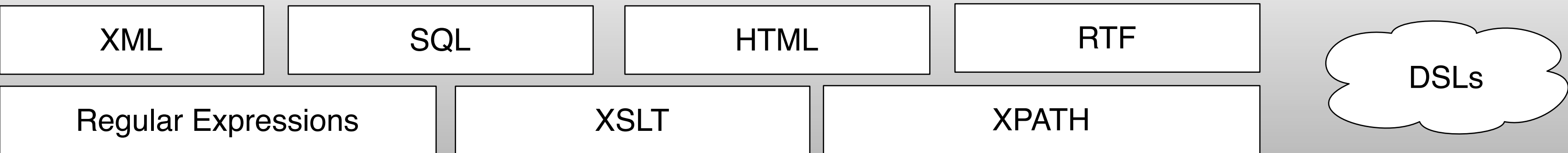
## Metric Categories



## Database Schema

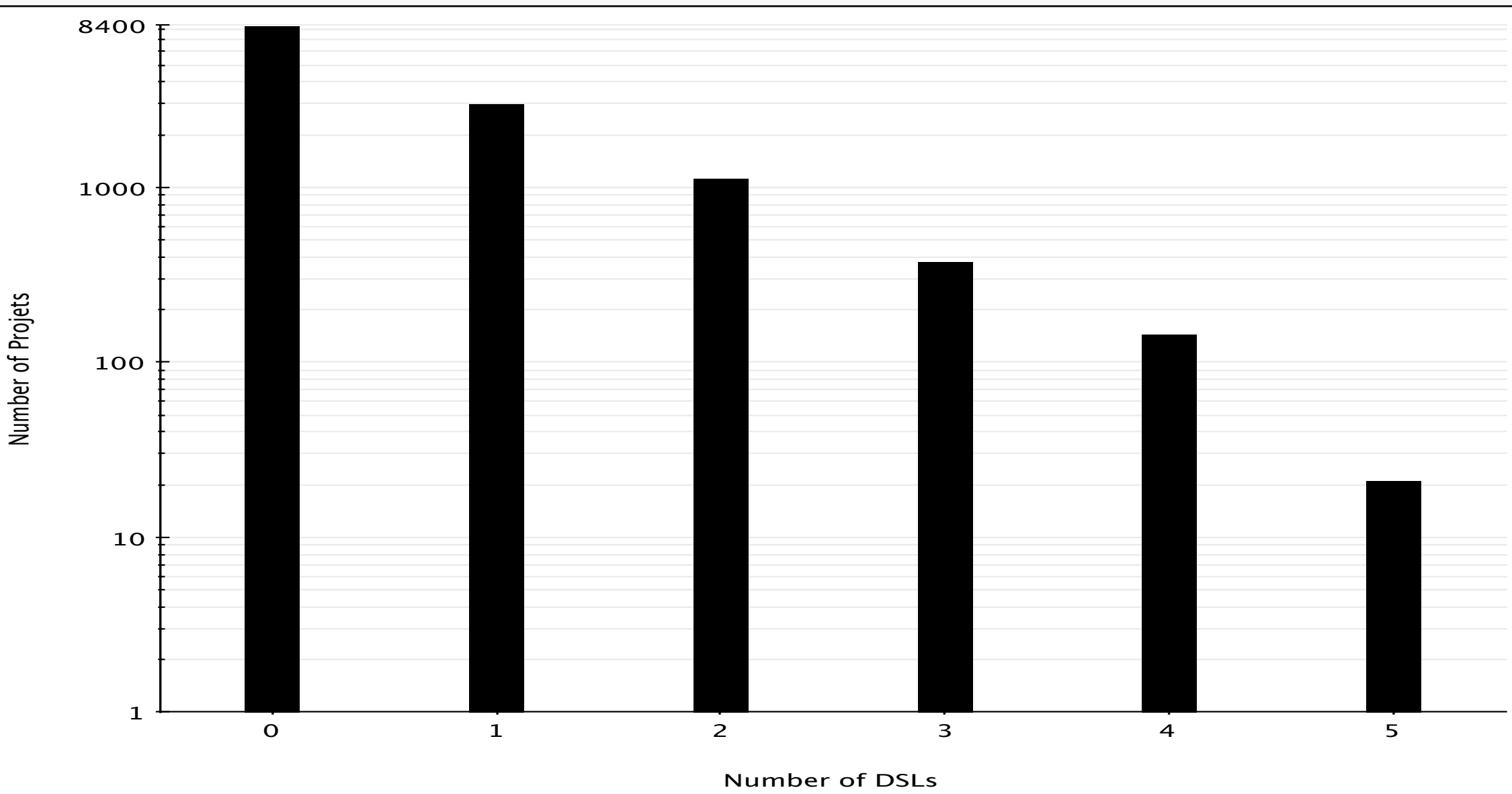


## Detecting Domain-specific Language Usage in Open Source Projects



The detection process was easy, the source code was statically analysed and the usage of specific packages were detected e.g. java.util.regex (regular expressions), java.sql and javax.sql for SQL.

### How many DSLs are used per project?



### #1 XML with 3094 uses

Regex, 1751

SQL, 1035

XSLT, 888

XPath, 190

HTML, 68

RTF, 7

### Facts

- ~35% of the projects are using at least one DSL
- 547 projects are using four DSLs
- 8 projects are using 7 DSLs!

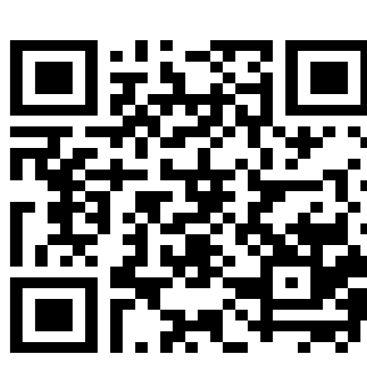
## Github Repository



## CKJM



## JDepend



## CLMT



## Contact Information

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## Popular DSL Combinations

XML, XSLT (475)	Regex, SQL, XML, XSLT (80)
Regex, XML (303)	Regex, SQL, XML (71)
Regex, XML, XSLT (158)	SQL, XML, XSLT (54)
SQL, XML (162)	XML, XPath (50)
Regex, SQL (116)	...

## Research Opportunities

The dataset can be used by researchers to test their models and theories against a large set of empirical data e.g. fine tune software quality models that are based on metrics.

Practicioners can test their tools and validate their calculations against CKJM and JDepend.

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