



Expression Calculation Engine for Java

About

Expr4J provides an expression calculation engine (and general purpose expression language) for Java and provides:

- A general purpose expression parser, intended to be used where mathematical expressions are useful (eg. in a spreadsheet) and compatible with Excel.
- A dependency engine for calculating spreadsheet-like dependency expressions (eg. A2=A1*35).
- An implementation of the excel built-in functions for compatibility.

Expr4J is licensed under the [Common Public License \(CPL\)](#).

Download

The latest [download](#) is available from the Project Page.

Usage

The following class (included in the download) implements a command-line interpreter of expressions.

```
package org.boris.expr.util;

import java.io.*;
import org.boris.expr.*;
import org.boris.expr.parser.ExprParser;

public class ExprEvaluator
{
    public static void main(String[] args) throws Exception {
        SimpleEvaluationContext context = new SimpleEvaluationContext();
        System.out.println("Expr Evaluator v1.0");
        BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
        while (true) {
            try {
                System.out.print(">");
                String line = br.readLine();
                if (line == null)
                    break;
                Expr e = ExprParser.parse(line);
                Exprs.toUpperCase(e);
                if (e instanceof ExprEvaluatable) {
                    e = ((ExprEvaluatable) e).evaluate(context);
                }
                System.out.println(e);
            } catch (Exception e) {
                e.printStackTrace();
            }
        }
    }
}
```

Dependency Engine Example

The following code snippet shows usage of the dependency engine:

```
package org.boris.expr.util;

import org.boris.expr.BasicEngineProvider;
import org.boris.expr.engine.DependencyEngine;
import org.boris.expr.engine.Range;

public class DependencyExample
{
    public static void main(String[] args) throws Exception {
        DependencyEngine e = new DependencyEngine(new BasicEngineProvider());
        e.set("B1", "=A1*2");
        e.set("A1", "=12*2");
        e.set("C1", "=B1*A1");
        System.out.println(e.getValue(Range.valueOf("B1")));
    }
}
```

```
        System.out.println(e.getValue(Range.valueOf("C1")));  
        e.set("A1", "2");  
        System.out.println(e.getValue(Range.valueOf("B1")));  
        System.out.println(e.getValue(Range.valueOf("C1")));  
    }  
}
```

Change History

V0.0.1

- Initial version.

