Dickinson User Guide

Vanessa McHale

Contents

Introduction **1**

Installing Dickinson **1**
Editor Integration 2

Program Structure **2**
Example 2
Definitions & Names 2
Branching 3
Interpolation 3
Expressions 3

REPL **4**
Saving & Restoring States 4

Libraries **5**
Using Libraries 5
Example 5
Writing Libraries 5

Examples **5**

Introduction

Dickinson is a text-generation language for generative literature. Each time you run your code, you get back randomly generated text.

Installing Dickinson

First, install cabal and GHC. Then:

```
cabal install language-dickinson
```

This provides `emd`, the command-line interface to the Dickinson language.

You may also wish to install manpages for reference information about `emd`.

Editor Integration

A vim plugin is available.

Program Structure

Dickinson files begin with `%-`, followed by definitions.

Example

Here is a simple Dickinson program:

```
%-

(:def main
  (:oneof
    (| "heads")
    (| "tails")))
```

Save this as `gambling.dck`. Then:

```
emd run gambling.dck
```

which will display either `heads` or `tails`.

The `:oneof` construct selects one of its branches with equal probability.

In general, when you `emd run` code, you'll see the result of evaluating `main`.

Definitions & Names

We can define names and reference them later:

```
%-

(:def gambling
  (:oneof
    (| "heads")
    (| "tails")))

(:def main
  gambling)
```

We can `emd run` this and it will give the same results as above.

Branching

When you use `:oneof`, Dickinson picks one of the branches with equal probability. If this is not what you want, you can use `:branch`:

```
%-

(:def unfairCoin
  (:branch
    (| 1.0 "heads")
    (| 1.1 "tails")))

(:def main
  unfairCoin)
```

This will scale things so that picking `"tails"` is a little more likely.

Interpolation

We can recombine past definitions via string interpolation:

```
(:def adjective
  (:oneof
    (| "beautiful")
    (| "auspicious")
    (| "cold")))

(:def main
  "What a ${adjective}, ${adjective} day!")
```

Expressions

Branches, strings, and interpolations are all expressions. A `:def` can attach any expression to a name.

```
(:def color
  (:oneof
    (| "yellow")
    (| "blue")))

(:def adjective
  (:oneof
    (| "beautiful")
    (| "auspicious")
    (| color)))

(:def main
  "What a ${adjective}, ${adjective} day!")
```

Branches can contain any expression, including names that have been defined previously (such as `color` in the example above).

REPL

To enter a REPL:

```
emd repl
```

This will show a prompt

```
emd>
```

If we have

```
%-

(:def gambling
  (:oneof
    (| "heads")
    (| "tails")))
```

in a file `gambling.dck` as above, we can load it with

```
emd> :l gambling.dck
```

We can then evaluate `gambling` if we like

```
emd> gambling
```

or manipulate names that are in scope like so:

```
emd> "The result of the coin toss is: ${gambling}"
```

We can also create new definitions:

```
emd> (:def announcer "RESULT: ${gambling}")
emd> announcer
```

Saving & Restoring States

We can save the REPL state, including any definitions we've declared during the session.

```
emd> :save replSt.emdi
```

If we exit the session we can restore the save definitions with

```
emd> :r replSt.emdi
emd> announcer
```

For reference information about the Dickinson REPL:

```
:help
```

Libraries

Dickinson allows pulling in definitions from other files with `:include`.

Using Libraries

Example

The `color` module is bundled by default:

```
(:include color)

%-

(:def main
  "Today's mood is ${color}")
```

The `:include` must come before the `%-`; definitions come after the `%-` as above.

`color.dck` contains:

```
%-

(:def color
    (:oneof
        (| "aubergine")
        (| "cerulean")
        (| "azure")
        ...
```

Writing Libraries

Examples