

Dr. Racket Tutorial

Copyright © 2010 CSIL Maclab, University of Chicago

Table of Contents

1	Starting Dr. Racket and Picking a Language	1
2	Using Dr. Racket	3
3	Saving and Printing Your Work	5
4	Frequently Asked Questions	6

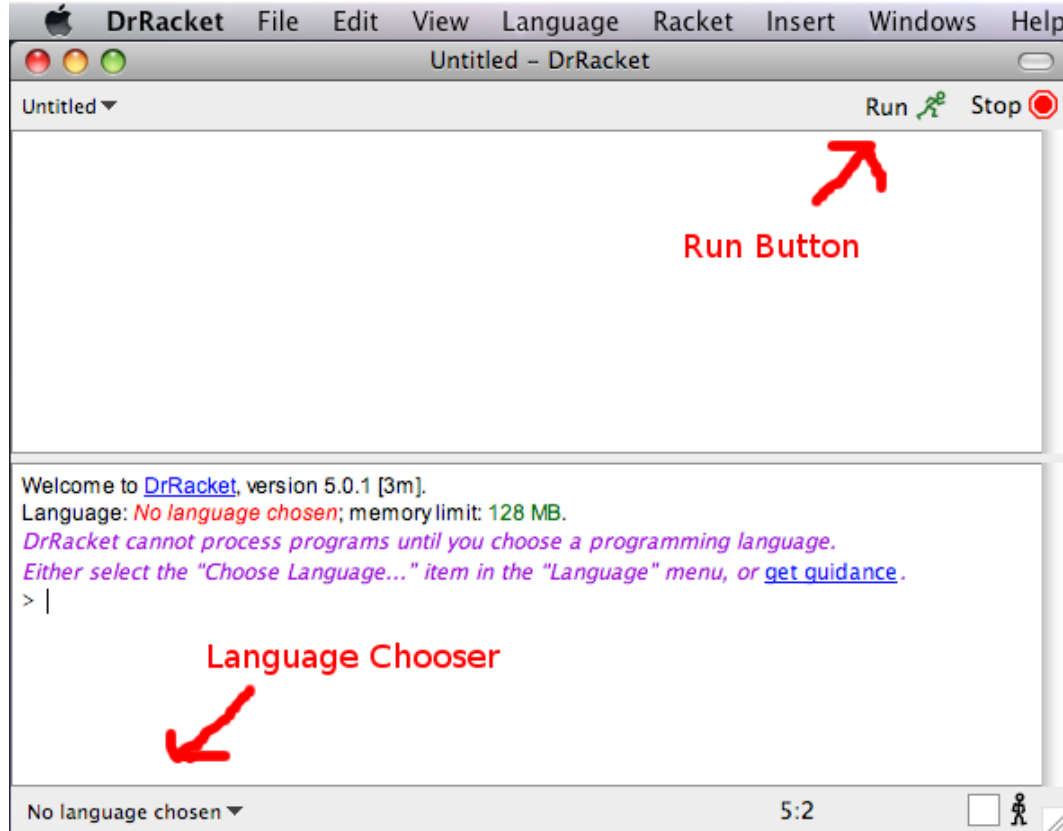
1 Starting Dr. Racket and Picking a Language

Starting Dr. Racket

To start Dr. Racket, first click its icon on the launch bar:



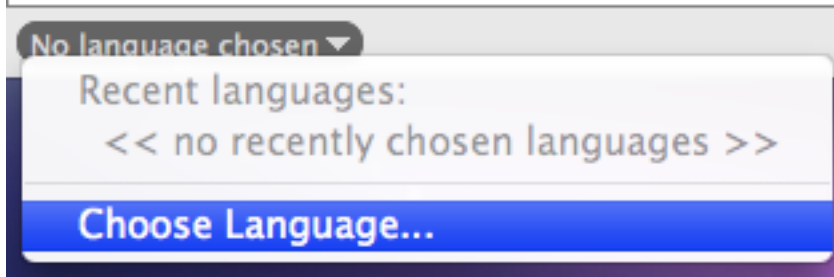
It will take a while to actually open. When it does, you should see this:



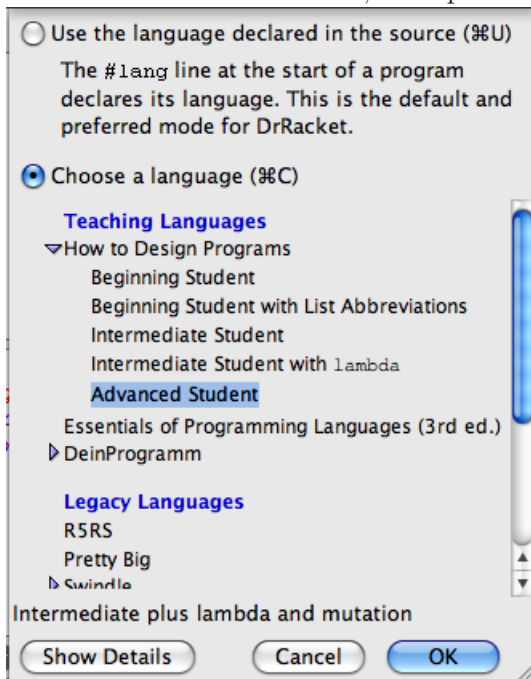
(points of interest have been labeled).

Picking a Language

The first time you start Dr. Racket, you have to pick a language with the **Language Chooser** in the lower left.



The rest of this tutorial will use the language “How to Design Programs: Advanced Student”. Select it in the menu, then press OK.

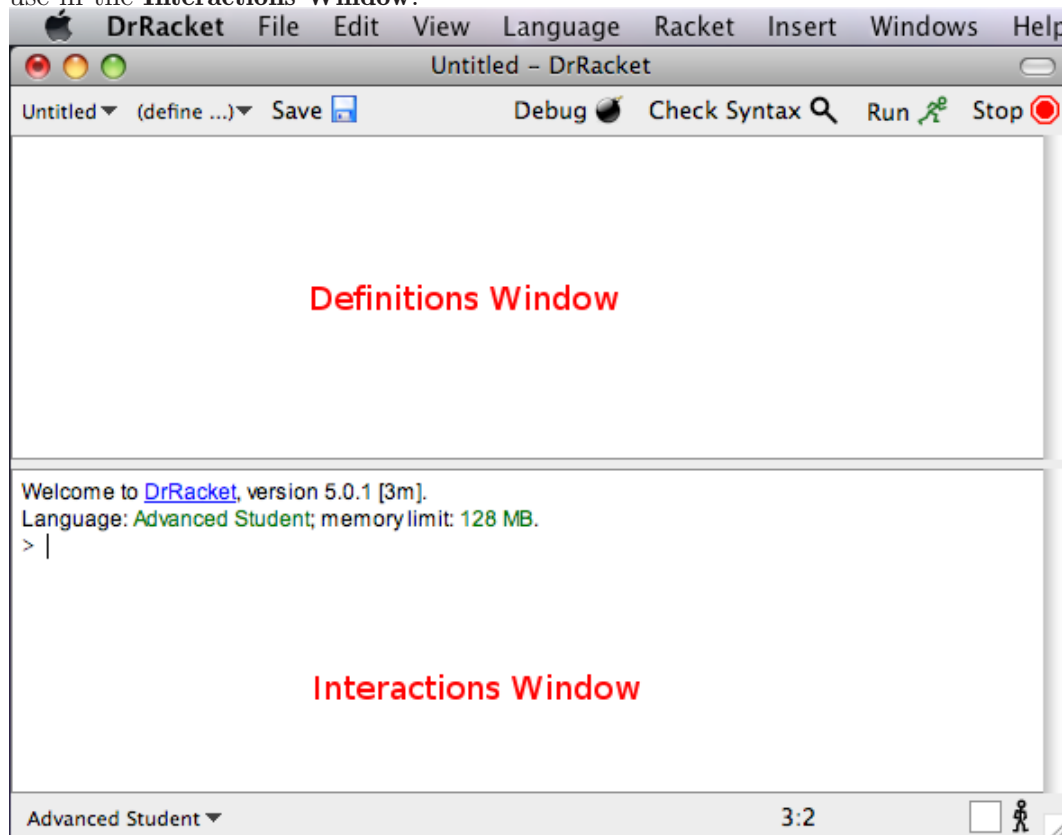


After you’ve picked your language, you need to press the **Run Button** to load it.

The Maclab deletes all personal data from our machines overnight, so when you come in again tomorrow you’ll have to pick your language again.

2 Using Dr. Racket

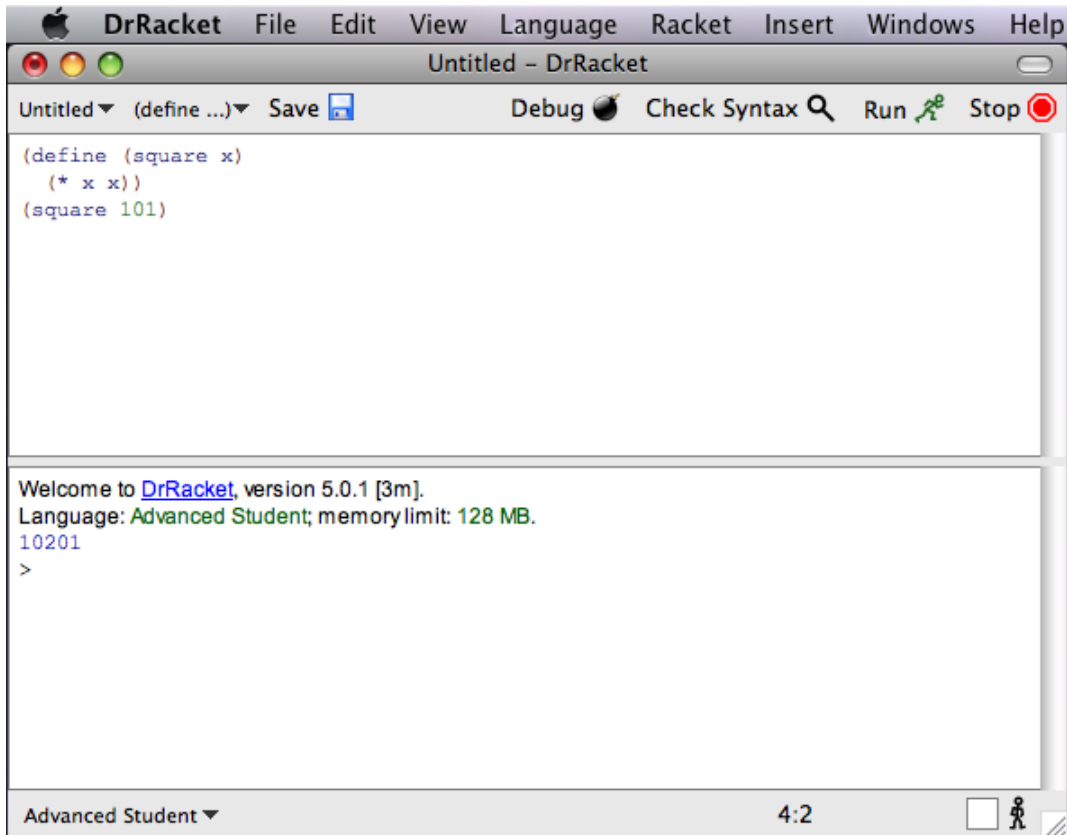
Dr. Racket's interface has two windows—the **Definitions Window** and the **Interactions Window** (also called a REPL for Read-Eval-Print Loop). The **Definitions Window** is where you type your program; everything in there will be executed when you press the **Run Button**. The **Interactions Window** is an interactive prompt; if you type a Racket expression there and press enter, the expression will be evaluated and its value printed below the prompt. If you've run your program, any functions or variables you've defined will be available for use in the **Interactions Window**.



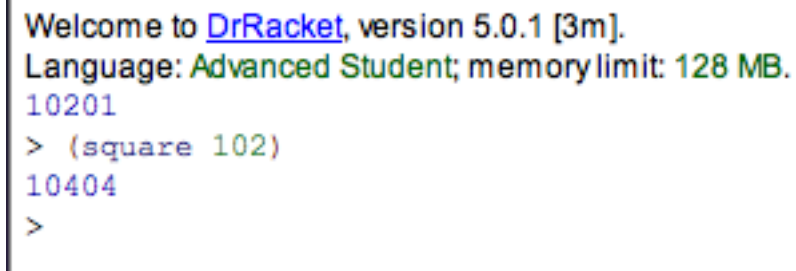
For instance, let's say we write the follow simple program to find out what 101 squared is:

```
(define (square x)
  (* x x))
(square 101)
```

We enter this into the **Definitions Window** and press the **Run Button**. The result of our program is outputted at the top of the **Interactions Window**.



If we're then curious what 102 squared is, we can simply type `(square 102)` into the **Interactions Window** to find out:

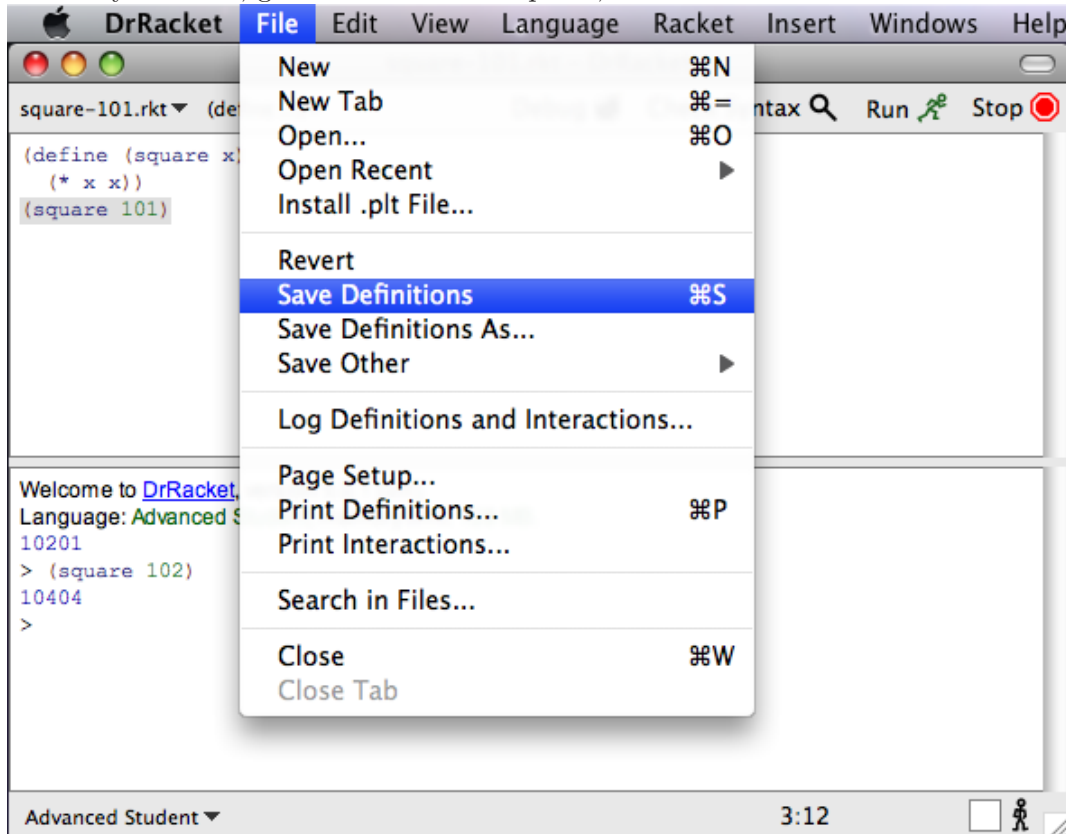


An actual introduction to the Racket programming language is beyond the scope of this text. A quick introduction may be found at <http://docs.racket-lang.org/quick/>.

3 Saving and Printing Your Work

Saving Your Work

To save your work, go to “File” in the top bar, and choose “Save Definitions”.



Your file name will end with an extension of `.rkt` by default. The default save destination is your Documents folder. Double clicking a `.rkt` file will open it in Racket by default.

Printing Your Work

There are two print options under “File”: “Print Definitions” and “Print Interactions”. They print the **Definitions Window** and the **Interactions Window** respectively. Printing in the Maclab now goes through the Unified Print System, and you will need an account with them to print your work. There is a printer a little ways outside the Maclab (to the right of it as you walk from the stairs). Maclab employees have no control over these printers, but there is a Canon representative at the circulation desk during normal business hours who should be able to answer any questions or complaints.

4 Frequently Asked Questions

- Q: Why doesn't this source file from the Internet work?
A: You may be using the wrong language. See if your source recommends one; if not, **Pretty Big** will work for most things. If that fails, try **Full Swindle** or **Lazy Racket**.
- Q: How do you use the debugger?
A: First make sure you're in a language that supports it. If you are there will be a button with a picture of a bomb on it in the upper-right corner of the screen. You can read about how to use the debugger at <http://docs.racket-lang.org/drracket/debugger.html>.
- Q: Do I have to use the GUI?
A: Nope. You're looking for `/Applications/Racket\v5.0.1/bin/racket`. You can get a list of flags by passing it `-h`. If you're using it in a pipeline and don't want all that prompt cruft, you probably want to use the `-e` flag.