

# JFlap2TikZ

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## Introduction

[JFlap](#) is an excellent piece of software for experimenting with finite state machines, Turing machines and exploring many aspects of the theory of computation. [JFlap2TikZ](#) is a [groovy](#) script that converts a JFlap `jff` file representing a finite automaton, push down automaton, or Turing machine to  $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$  file depicting the automaton graphically using [TikZ](#).

## Requirements

To use [JFlap2TikZ](#) you will need [Java](#) installed. Additionally you may find it useful to have [groovy](#) installed as well. You will need to download either `JFlap2TikZ.jar` (if you only have Java installed) or `JFlap2TikZ.groovy` (if you also have groovy installed).

## Usage

[JFlap2TikZ](#) is invoked from the command line, using Java

```
java -jar JFlap2TikZ.jar example.jff
```

or using groovy

```
groovy JFlap2TikZ.groovy example.jff
```

Note that in either case the output will be written to the console. Redirect the output or copy and paste as needed. Here is the full usage information.

```
usage: JFlap2TikZ [-g] [-h] [-r] [-s scale] [-z size] filename
  -g,--grid           Round positions so that they are on a grid
  -h,--help          Show usage information and quit
  -r,--rotate        rotate labels along edges
  -s,--scale <arg>  1 pixel in JFlap = scale points in LaTeX (default
                    is 1.0)
  -z,--gridsize <arg> Set the spacing of the grid (default is 20.0)
```

## Examples

The following figures show machines from the book [JFLAP: An Interactive Formal Languages and Automata Package](#) being converted to [TikZ](#) using [JFlap2TikZ](#). Note that [JFlap2TikZ](#) currently ignores JFlap state annotations. Furthermore, not all JFlap files will be converted perfectly. You may have to adjust the scale and/or gridsize or edit the resulting [TikZ](#) code to achieve the effect you want. However, [JFlap2TikZ](#) should provide a good starting point.

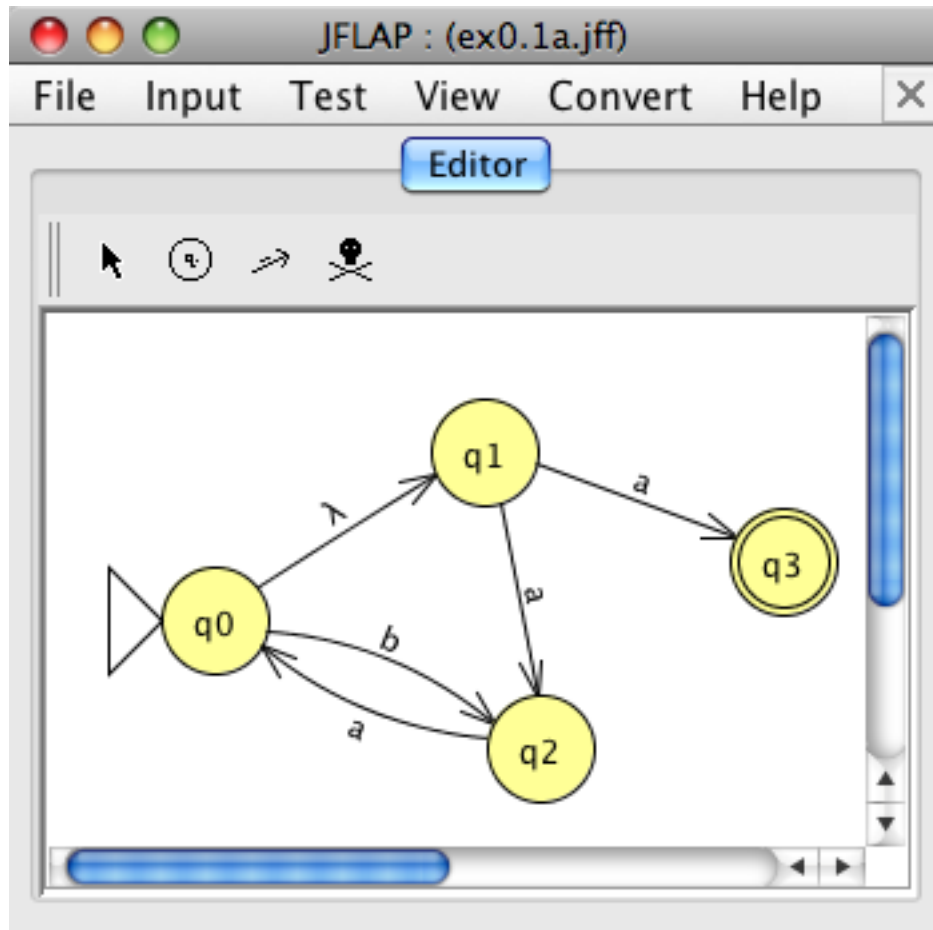


Figure 1: ex0.1a.jff

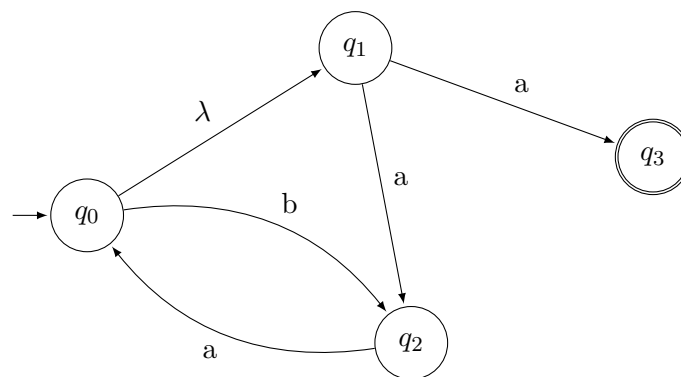


Figure 2: ex0.1a.jff converted to TikZ using default values

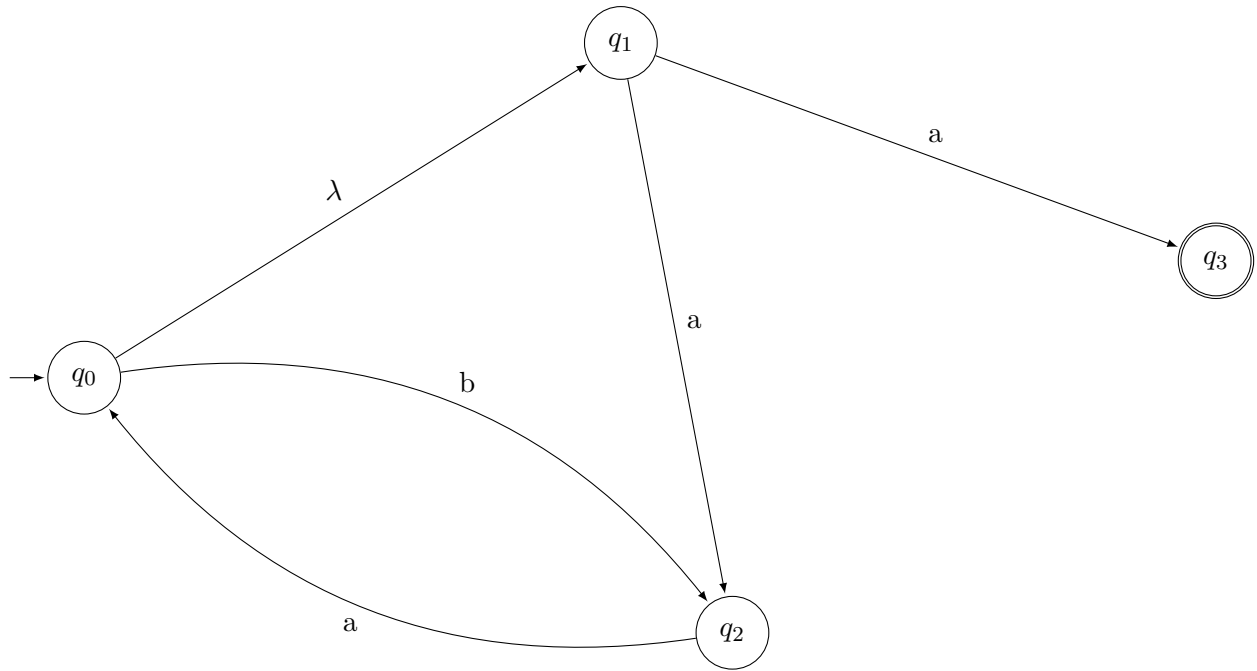


Figure 3: ex0.1a.jff converted to TikZ using a scale of 2

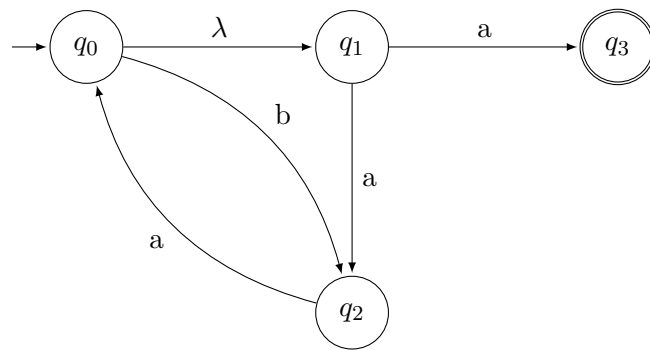


Figure 4: ex0.1a.jff converted to TikZ using a gridsize of 100

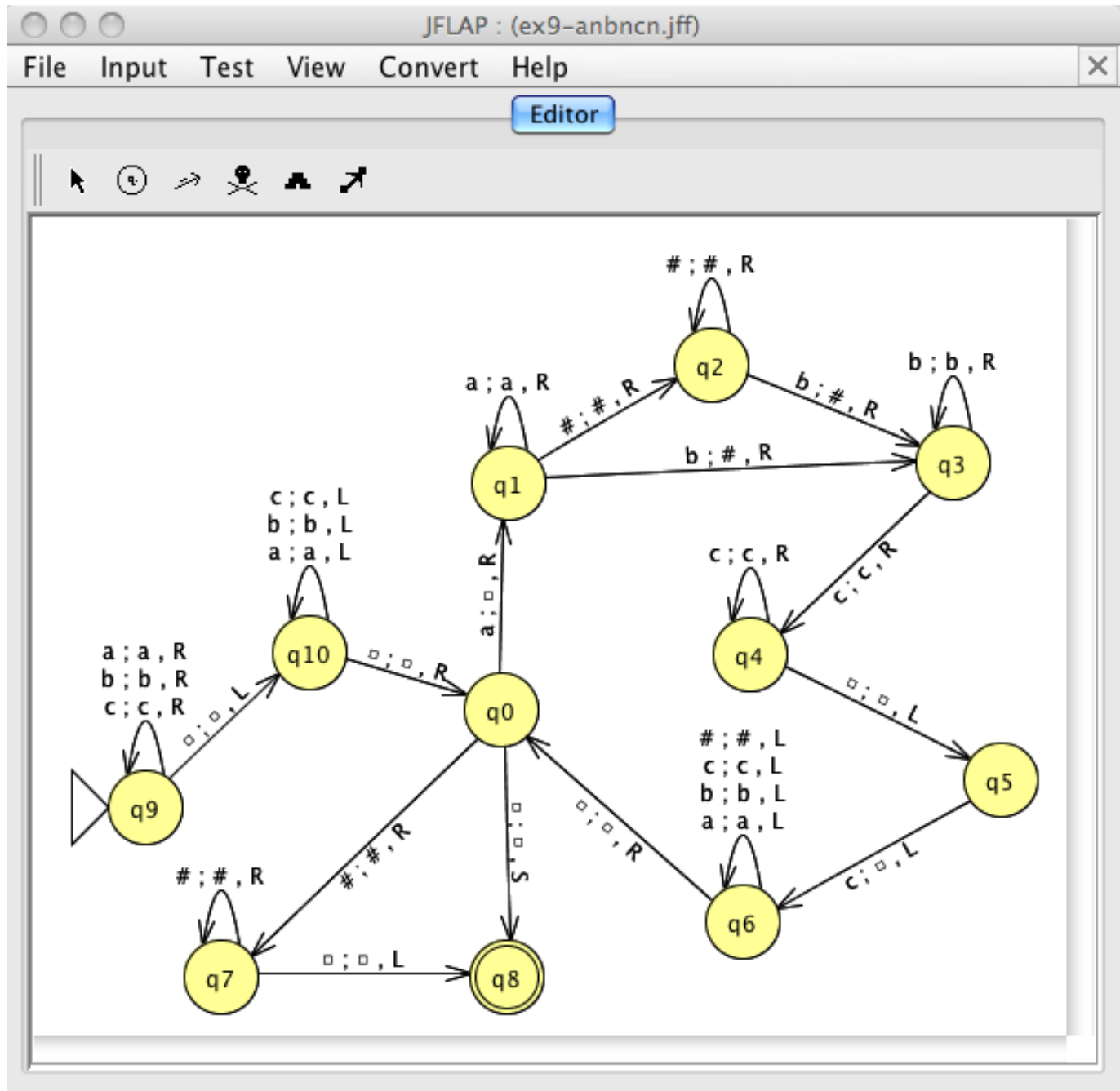


Figure 5: ex9-anbncn.jff

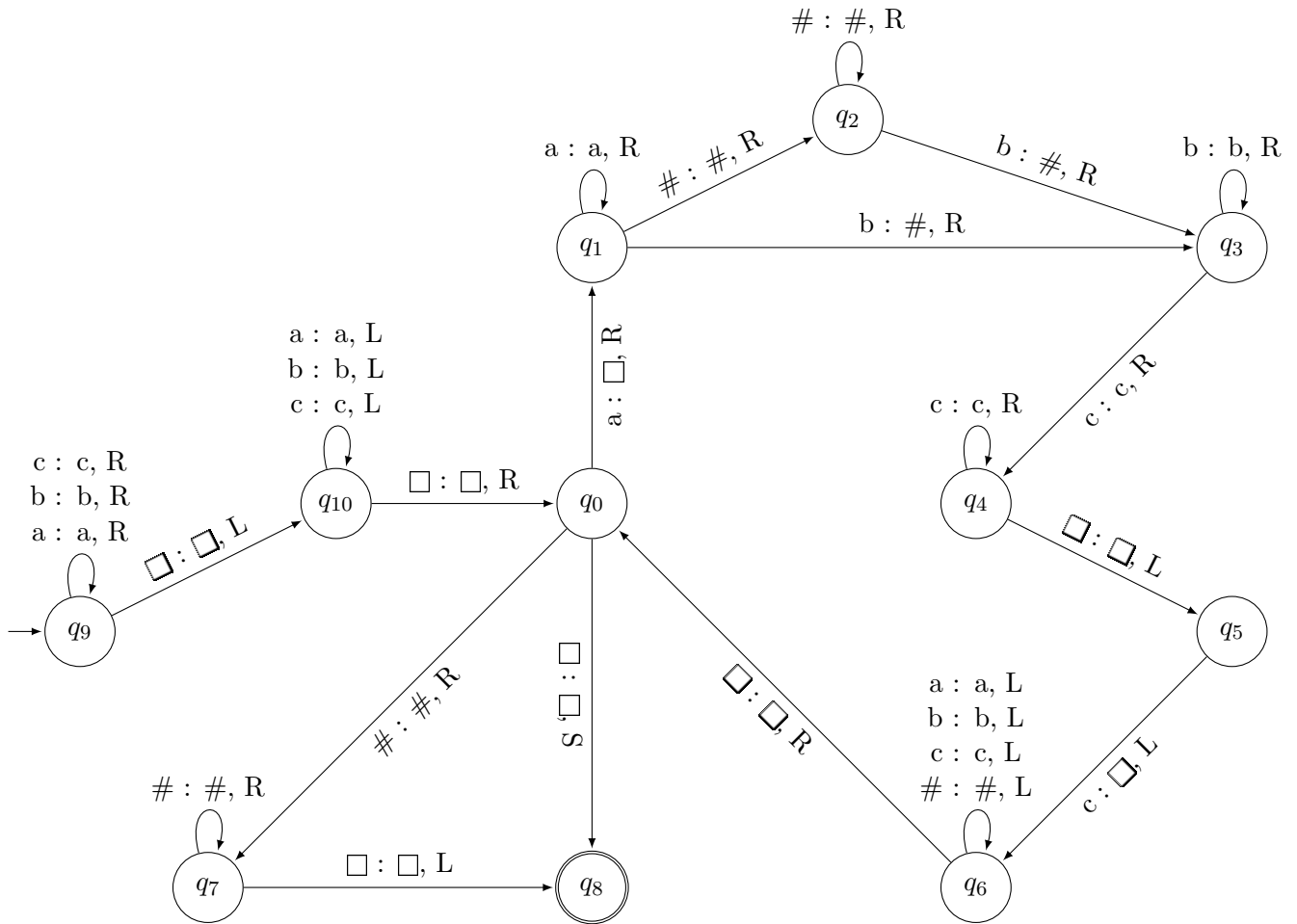


Figure 6: ex9-anbncn.jff converted to TikZ using a gridsize of 50 and label rotations on

## License

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