



[Courseware](#) [Course Info](#) [Discussion](#) [Wiki](#) [Progress](#) [Discussion Guidelines](#) [Resources](#) [Exploring Engineering](#)  
[Syllabus](#) [How to Use Jade](#)

**Help**

## High Performance Pipelined LC-3 Lite

This version includes forwarding datapaths and control hardware for handling dependences as well as support for discarding instructions following a taken BR. (How do we do this?)

How much faster is this high performance version compared to the first one and the non-pipelined LC-3 Lite?

Following are an assembler window, and a few Jade instances which you can use. We are suggesting you use the module name prefix /pipefast/.

### Hierarchical Jade

You will notice a few differences in the Jade instances on this page. These identical instances allow you free reign to create and modify modules for the hackathon! Specifically, you'll notice three new buttons on the top toolbar next to the dropdown box: a create module icon, a copy module icon, and a delete module icon. These let you manage your own modules! Some restrictions still apply:

- You will still want to save and load your modules to ensure they're saved in your browser. edX does not allow any writable storage on their site.
- Your modules need to be named a certain way. They need to start with either:
  - /user/
  - /pipeslow/
  - /pipefast/ (suggested prefix for modules in this high performance pipelined LC-3 Lite)

If they are not prefixed with one of these two strings, they won't load or be editable!

There are three instances so you can see more than one module at a time. If you save a module in one instance, be sure to reload it if you want to see it in another instance!

Don't forget How to Use Jade (new window).

---

## ASSEMBLER

Use CTRL-A (Apple-A) and CTRL-C (Apple-C) to quickly capture the data in the machine code section.

## LC-3 Assembler

```
1 .ORIG 0x3000
2 HALT
3 .DATA 0x4000
4 .END
```

```
1 @0b11000000000000
2 0b1111000000100011
3 @0b10000000000000
```

Check button now submits assembly to edX!

Check

JADE

**Help**

Module: /user/untitled

SCHEMATIC ICON PROPERTIES TEST

4-bit adder

gates

/user/untitled

Jade 2.2.43 (2015) © MIT EECS

Check

MORE JADE

**Help**

Module: /user/untitled

SCHEMATIC ICON PROPERTIES TEST

Grid icon, Compass, Logic symbols toolbar

Logic symbols toolbar: AND, OR, NOT, XOR, NAND, NOR, XNOR, MUX, DEMUX, etc.

/user/untitled

Click component to select, click and drag on background for area select, shift-click and drag on background to pan

Jade 2.2.43 (2015 © MIT EECS)

Check

## EVEN MORE JADE

Help

Module: /user/untitled

SCHEMATIC | ICON | PROPERTIES | TEST

Grid-based schematic editor interface. The main workspace is a grid. A toolbar at the top includes icons for selection, rotation, deletion, and other functions. A sidebar on the right lists components under the heading "/gates", including various logic gates (AND, OR, NOT, XOR, etc.). A sidebar on the left shows a small component palette. The bottom of the workspace displays the text "/user/untitled".

Click component to select, click and drag on background for area select, shift-click and drag on background to pan

[Jade 2.2.43 \(2015 © MIT EECS\)](#)

Check

Show Discussion

[New Post](#)





EdX offers interactive online classes and MOOCs from the world's best universities. Online courses from MITx, HarvardX, BerkeleyX, UTx and many other universities. Topics include biology, business, chemistry, computer science, economics, finance, electronics, engineering, food and nutrition, history, humanities, law, literature, math, medicine, music, philosophy, physics, science, statistics and more. EdX is a non-profit online initiative created by founding partners Harvard and MIT.

© 2015 edX Inc.

EdX, Open edX, and the edX and Open edX logos are registered trademarks or trademarks of edX Inc.

[Terms of Service and Honor Code](#)

[Privacy Policy \(Revised 10/22/2014\)](#)



#### About edX

[About](#)

[News](#)

[Contact](#)

[FAQ](#)

[edX Blog](#)

[Donate to edX](#)

[Jobs at edX](#)


#### Follow Us


 [Facebook](#)


 [Twitter](#)


 [LinkedIn](#)

 [Google+](#)

 [Tumblr](#)

 [Meetup](#)

 [Reddit](#)

 [Youtube](#)