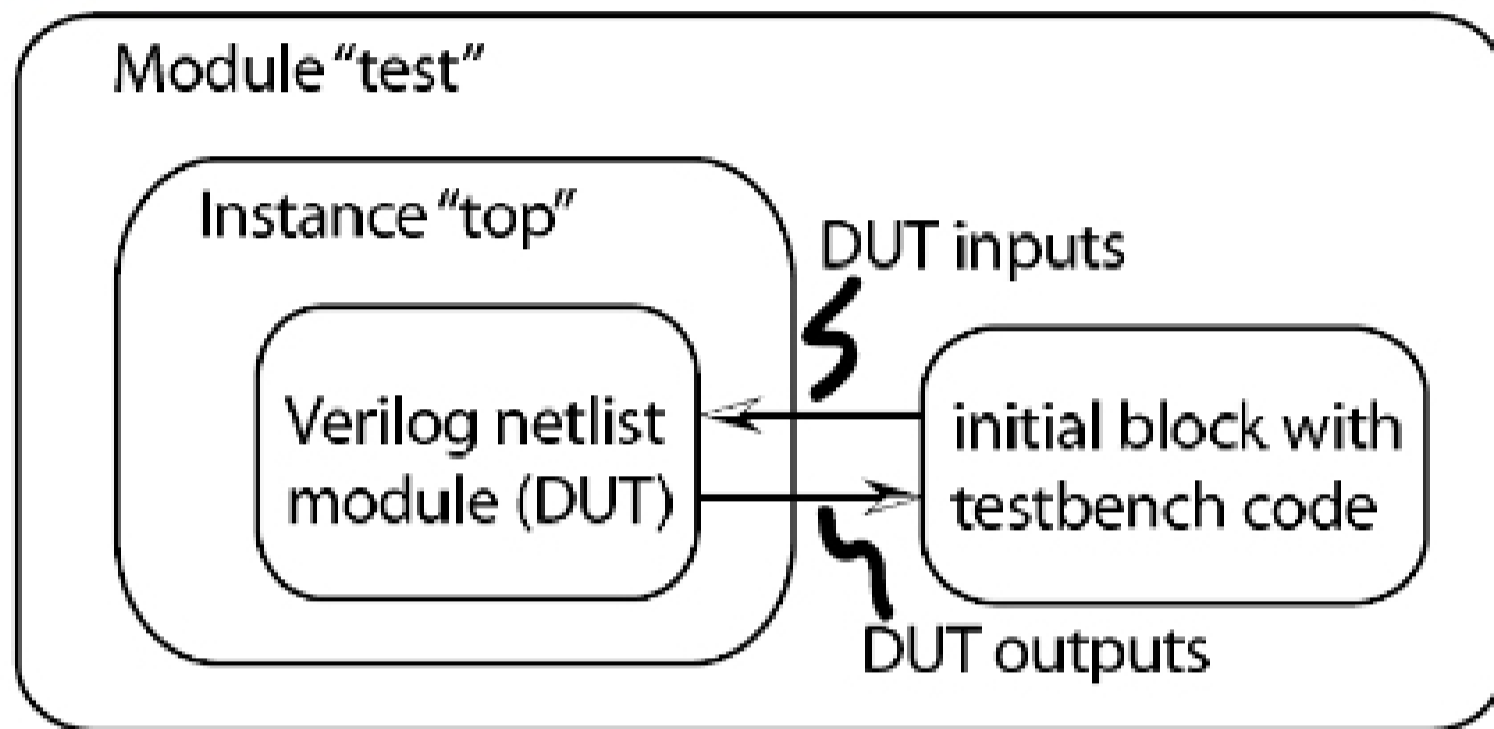
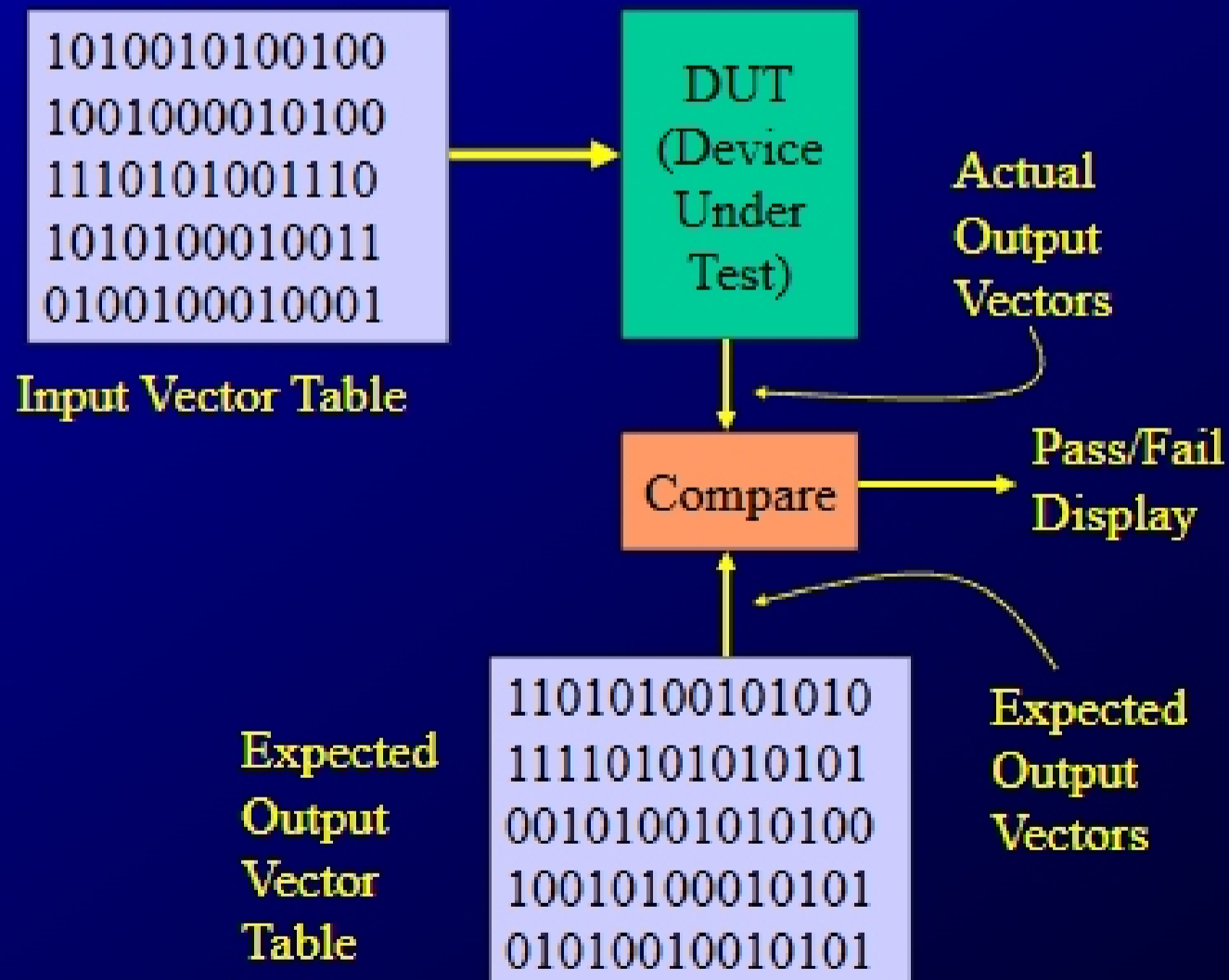


# Testbench Template

▶ Testbench template generated by Cadence



# The Big Picture

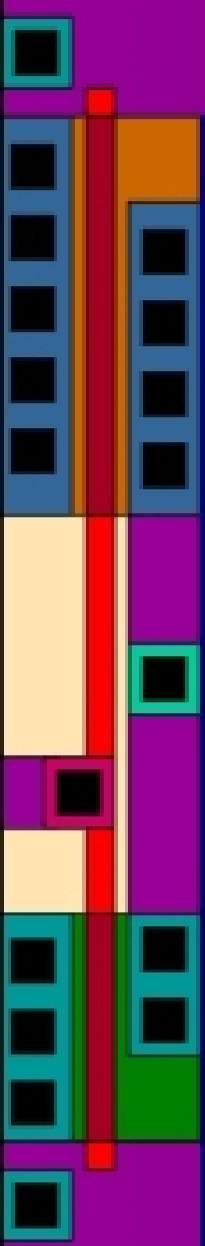


## Testing with the LV-500

- ▶ Tektronix LV-500
- ▶ Built in 1989-1991
  - ▶ I.e. Ancient technology!
  - ▶ eBay is a good source for spare parts these days...
- ▶ Specifically designed to be a stand-alone tester for ASICs
  - ▶ I.e. More testing features than a basic logic analyzer

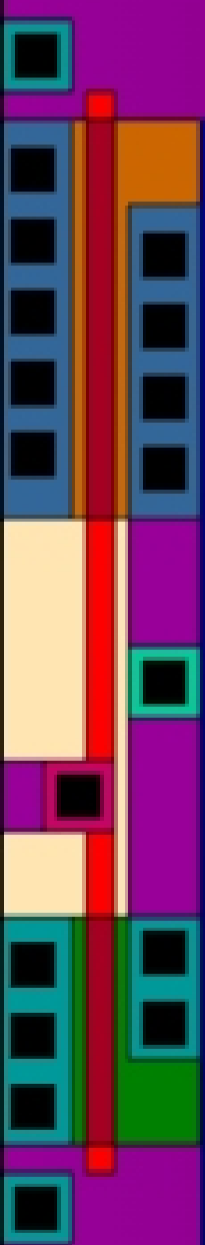
## What's an ASIC Tester?

- ▶ Ours is built on a Tektronix DAS 9200 logic analyzer platform
- ▶ The main differences are in the test head, the pattern/error cards, and the Schmoos
  - ▶ The test head has up to 256 bi-directional pins where each pin has programmable electronics
    - ▶ voltage drive, current drive, voltage sense, etc.
  - ▶ The pattern/error cards store and compare the test vectors at up to 50MHz
    - ▶ fast for 1989!
  - ▶ A Schmoos lets you run repeated tests while the tester alters one or two independent variables like threshold, delay, cycle length, voltage, etc.



## Flavors of LV500s

- ▶ **Common Features**
  - ▶ Test speeds up to 50MHz
  - ▶ Up to 64,000 unique test vectors
  - ▶ Network connection for uploading tests
    - ▶ Thinlan ethernet
  - ▶ 8 Meg of RAM
  - ▶ 21 or 43 Meg hard drive
  - ▶ 5.25 floppy (1.2M floppy)



## Flavors of LV500s

- ▶ **LV514**
  - ▶ 192 test channels (12 sectors)
    - ▶ 160 are usable (two sectors may be bad)
  - ▶ Pre-wired test card for class chips
  - ▶ *(should really be called LV513, but that's a long story)*
- ▶ **LV512**
  - ▶ 128 test channels (8 sectors)
    - ▶ All channels are usable
  - ▶ Used mostly for tutorial purposes
    - ▶ But, we have a new test card too...