

## Chapter 3 - Verilog - TRAINING - Advanced

Course authors (Git file)



## 1 LFSR - Linear Feedback Shift Register



# LFSR - Linear Feedback Shift Register

This Training makes use of the Verilog code of the Linear Feedback Shift Register (LFSR) from the lecture slides.



# LFSR as example

## Task: Create directory and Verilog file

- Create a new directory for the LFSR example (in your Documents dir?)
- Create a new file `lfsr.v` inside that directory
- Copy the Verilog code from the lecture slides into the file `lfsr.v`



# Analyse parts of the Verilog source

## Task: Identify parts in the code

Find combinational and synchronous parts of the LFSR in

- the Verilog code
- the Schematic drawing (from the lecture slides)



# Using yosys

## Task: Learn to use yosys basics

Start using the tool `yosys`. You can get a basic help list with `yosys --help`. And for the commands it is

`yosys --help <command>`

- Learn how to synthesize a Verilog file to a JSON netlist.
- Learn to save the JSON netlist to a file

**Tip:** Use ChatGPT or a search engine to get information about how to use yosys.

## Task: Netlist

Generate

- JSON Netlist

from the LFSR Verilog code

- Open the JSON netlist. Can you read it?