# Chapter 3 - Verilog - TRAINING - Advanced

Course authors (Git file)



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 Ifsr.v inside that directory
- Copy the Verilog code from the lecture slides into the file Ifsr.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?