

Digital Systems

Introduction to Logisim simulator

1. Using Logisim and the results from exercise 2 of exercise sheet 3 - **Representation and simplification of functions**:
 - (a) implement the initial circuit
 - (b) implement the simplified circuit
 - (c) verify that both circuits are equivalent
2. Using Logisim, verify that the circuits obtained in lines (a), (b) and (c) from exercise 3 of exercise sheet 3 - **Representation and simplification of functions** are equivalent.
3. Using the Logisim module *Combinatorial Analysis* and the exercise 5 of exercise sheet **Representation and simplification of functions**:
 - (a) Draw the truth table and/or the algebraic expression
 - (b) Verify the Karnaugh map
 - (c) Verify the simplified expression
 - (d) Observe the circuit built by Logisim
4. Using Logisim, for exercise 7 of exercise sheet **Representation and simplification of functions**, verify that function $F(A, B, C)$ is correctly implemented.