

Question: The problem is to show how many ones (1s) a given number contains by looking at its bits. The given number is 4-bits. If the given number contains an odd number of 1s the output should be one, otherwise, the output is zero.

For example; input:0010 then this number contains only one 1, so the output is 1 Input:0011, this number contains two 1s, so this is an even number, the led is 0.

- Part1 with hand-written, upload with one pdf file:
 - Draw truth table & write logic equation
 - Simplify the equation with K-map
- Part2 on quartus project and Screenshots:
 - Implement the design with structural Verilog
 - Running the structural design (only logic gates) on the simulator take a screenshots. (add your project folder).
 - Implement the design with data flow Verilog
 - Running the data flow design (with operators) on the FPGA board take a screenshots (add your project folder).

Total Time: 30min

