FPGA Assignment

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November 4, 2022

Abstract

Through this manual, we learn FPGA verilog programming using Vaman to interface LCD 16x2 and print SUM on LCD

components

components	values	quantity
Vaman Board	-	1
LCD	16x2	1
bread board	-	1
jump wires	-	20

TABLE I

1. Connect the 5V pin of the Vaman to an extreme pin of the Breadboard Let this pin be V cc
2. Connect the GND pin of the Vaman to the opposite extreme pin of the Breadboard.
3. plug the LCD in fig.7 to breadboard
4. make the connections of vaman board and LCD according to tableII

TABLE II :Vaman to LCD connections

Pygmy	LCD pins	LCD pin label	LCD pin Description
GND	1	GND	
5V	2	Vcc	
GND	3	Vee	Contrast
10	4	RS	Register Select
GND	5	R/W	read/write
9	6	EN	Enable
14	11	DB4	Serial connection
13	12	DB5	Serial connection
12	13	DB6	Serial connection
11	14	DB7	Serial connection
5V	15	LED+	Backlight
GND	16	LED-	Backlight

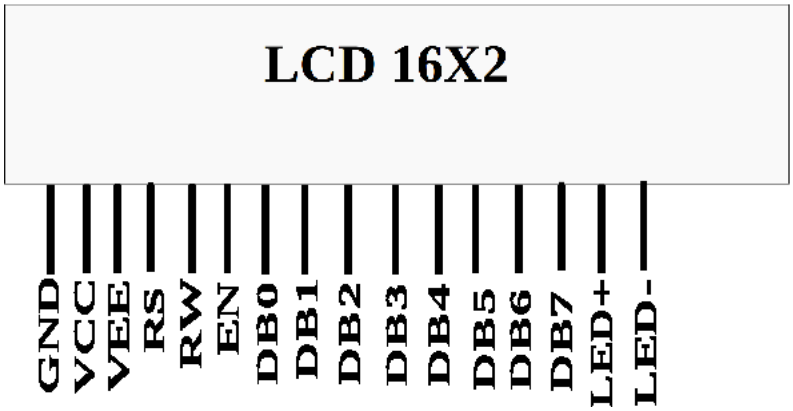

Figure 1: LCD 16X2

CODE

-After connection write the following verilog code

1. `https://github.com/kkousar/KOUSAR_FWC/tree/main/fpga/code`