

FPGA assignment

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- 1) **Abstract:**Through this manual, we learn how to display sum of two numbers on LCD using fpga
Let this pin be V_{cc}

2) components

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

TABLE I

- **step 1:**-Connect the 5V pin of the Vaman to an extreme pin of the Breadboard Let this pin be V_{cc}
- **step 2:**-Connect the GND pin of the Vaman to the opposite extreme pin of the Breadboard.
- **step 3:**-plug the LCD in fig.7 to breadboard
- **step 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	V _{cc}	
GND	3	V _{ee}	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

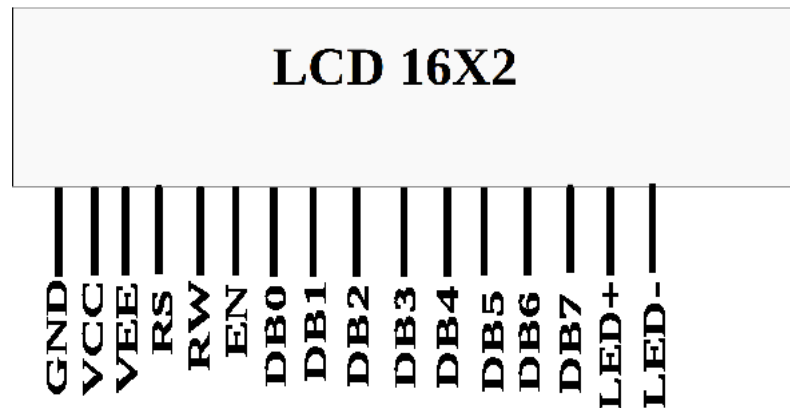


Fig. 1. LCD 16X2

CODE

-After connection write the following verilog code
https://github.com/kkousar/KOUSAR_FWC/tree/main/fpga/code