EE5811 : FPGA LAB
ASSIGNMENT 1

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Problem

Question 6) b) from papers/cbse/cs/2017.pdf
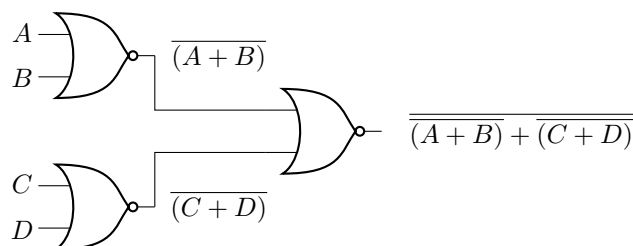Draw the logic circuit of the following boolean expression using only NOR Gates :

$$(A + B) . (C + D)$$

Solution

To convert the above expression to NOR only logic circuit we will take the Double conjugate of the whole expression and then use de Morgan's Theorem to simplify it.

$$(A + B).(C + D)$$

$$\overline{\overline{(A + B).(C + D)}}$$

$$\overline{\overline{(A + B)} + \overline{(C + D)}}$$

The last expression can easily be drawn using NOR gates in the following manner

A C Code has been attached in the repository for verification

```
./ nor_representation.c
```