RESET DAYS ACCORDING TO MONTHS

- **Main Idea of Task : (REST DAYS)**

We need to reset counters of Days according to number that displays in Months 7 segment.

So we first have to determine months that we rest at 31 or 30 or 28 days .

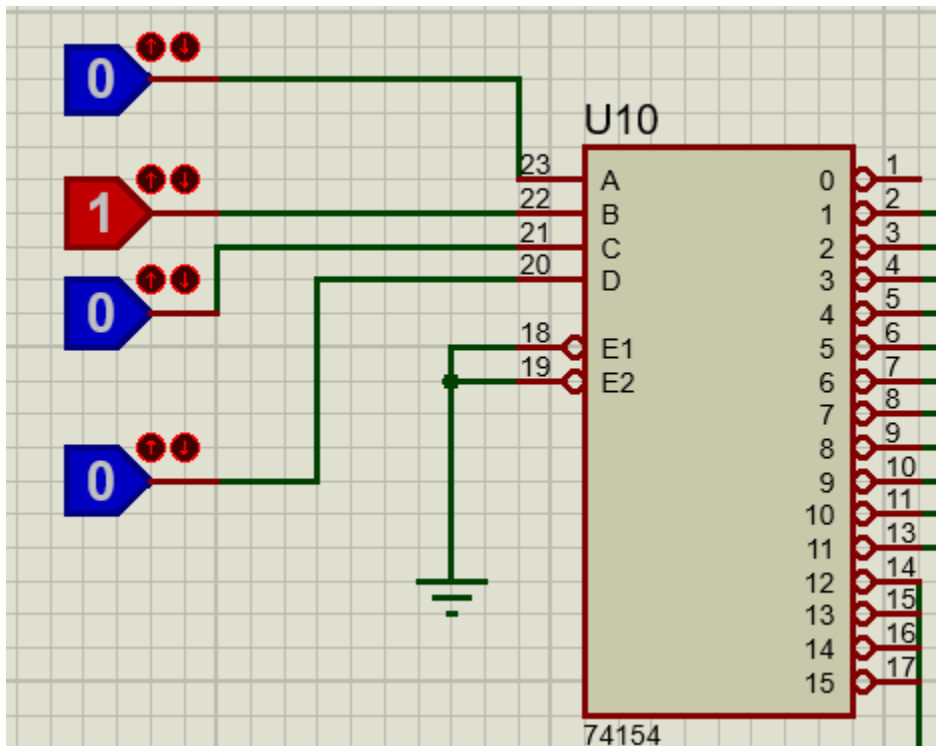1,3,5,7,8,10,12 → 31 Days

4,6,9,11 → 30 Days

2 → 28 Days

Month	Num of days
1	31
2	28
3	31
4	30
5	31
6	30
7	31
8	31
9	30
10	31
11	30
12	31

Element used and its usage

1- 74154 Decoder

It takes input as binary and converts it to decimal active low

U10

```
23   A         0    1
22   B         1    2
21   C         2    3
20   D         3    4
               4    5
18   E1        5    6
19   E2        6    7
               7    8
               8    9
               9   10
              10   11
              11   13
              12   14
              13   15
              14   16
              15   17
```

74154

2- 2 Nand gates

Because of active low of Decoder we use NanD instead of OR

NAND GATE

A
B ⊐⊃o— C

$$C = \overline{A.B}$$
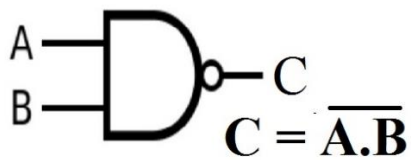
Truth Table

INPUT		OUTPUT
A	B	A NAND B
0	0	1
0	1	1
1	0	1
1	1	0

This Nand to 31-day months it is connected with(1,3,5,7,8,10,12) if any of them = 0 its output=1
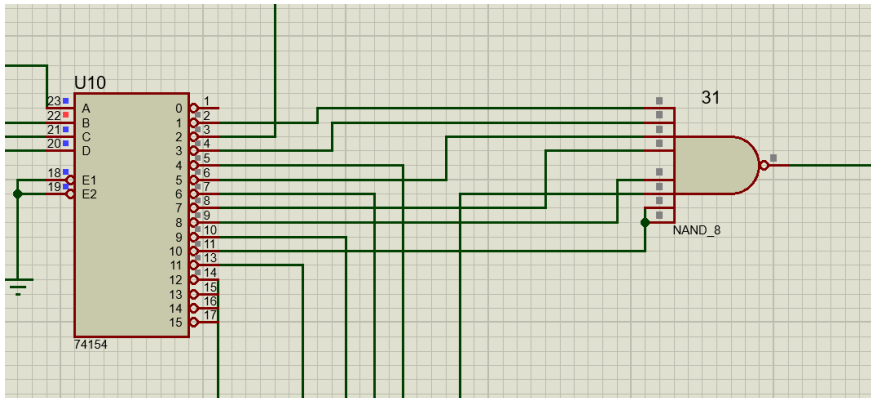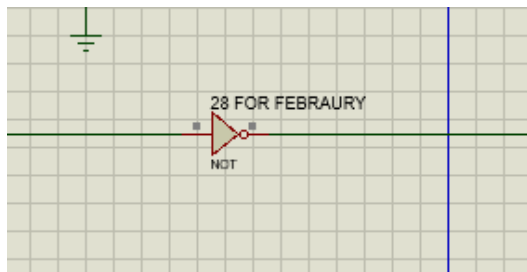

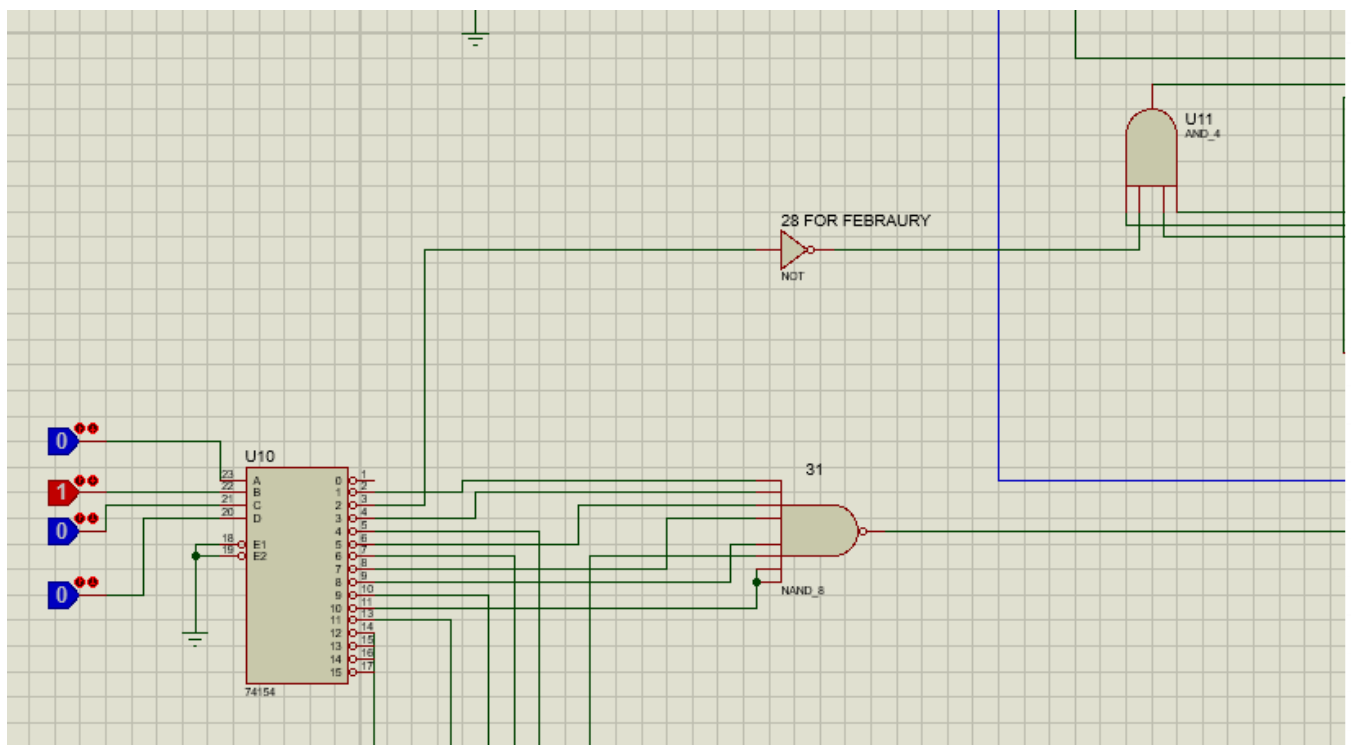This Nand to 30-day months it is connected with(4 ,6 ,9,11) if any of them = 0 its output=1
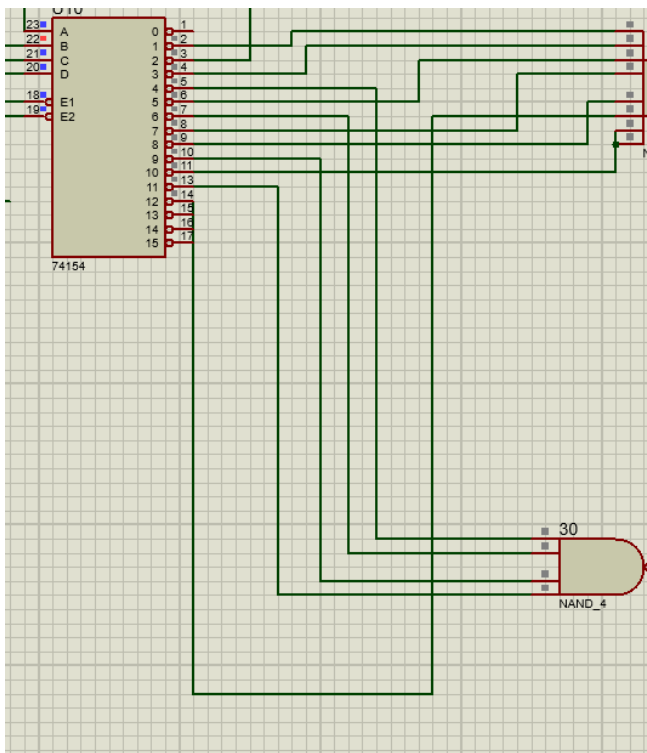
3- **NOT gate:** it is toggle input
   if input=0 → output=1

It is connected with month 2 .

28 FOR FEBRAURY

NOT

4- AND gates   : Its Task to check months and days .

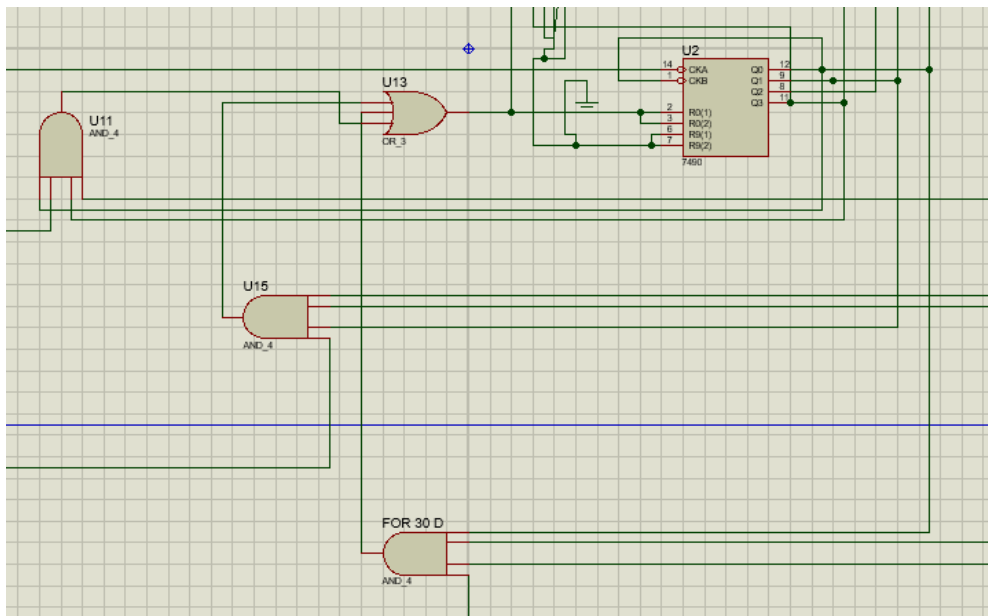For example : if month is 2 and days that display in 7 segment is 28 its output would be 1

U11
AND_4

28 FOR FEBRAURY

NOT

U10
74154

31

NAND_8

And so on with other AND Gates .

5- OR-3 gates:

If the output from any AND =1 then → output=1

3 Input OR Gate

OR Gate

$$Z=W+X+Y$$
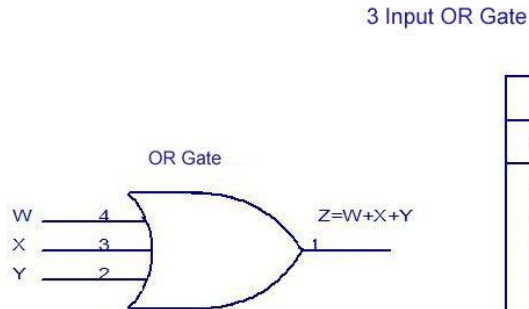
INPUTS			OUTPUT
W	X	Y	Z
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1

TRUTH TABLE

Then output of this OR would rest counters.