

Binary Mare Mare

Iritial State: 1700/010/11/100/0

- I Logical Grater Room
- 1) AND Grate

Grives Number 10/0/100/0/0/101

And 101010101010101

Result: 1000 | 000 | 0 | 00000

2) OR Grate

Brevious Result: 1000/000/0100000

Griven Number: 0/1/00/100/100/1

OR 0 | 1 | 10 0 | 10 0 1 1 0 0 1 1

Result: 11110110110011

3) XOR Grate

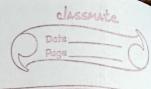
Premous Regult: 1. 11101110110011

Given Number: 110/110/1100/110

	111101110110011	I Word Sissey B
XC		
	(OR 1 10 1 1 1 0 0 1 1 1 0 0 1 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0 1 0 1 0	After countring
	Result: 00/00/100/11/10/	to act
10	2) NOT Grate	h=100
		11.00=12
	Browing Result: 001001100111101	41 = 0 1
		0 20 01
	00/00/100/11110) Not	t = 1110
	Not	2 stato
		00/1=3
	Result: 1101100110000010	E(=[1]
		101=13
1	I Binary Conversion Room	11=1101
		2=0110
\rightarrow	After Converting the result of the previous we get 55,362.	ous room into decimal,
	we get 55,362.	5=0100
	0	1=(000
->	Ans+123=55,485	
(15	> Aus 7 = 3,88,398 three +	> By conposing a
\rightarrow	> Aus* 7=3,88,395	is the hervier
	Converting the final arswer of this we get 1011110110011101011	roon into burary,
	me get 1011118110011101011.	A ANTAKAULE
unu	in all at change areas tot about feel the state of the	att at top el
	thog ett wallof at bee	no. 1011, we s
	Shight > Right > Roght	THE THE

I Weighted Binary Balancing 10011011 After converting the 15 binary weights into decenal, we get 1001-9 1100=12 1110214 10/02/0 011127 010129 0011= 3 11112 19 1101=13 1011=11 0110=1 micropolo 02 4ma wateres et 00 10 = 2 000)=1 → By comparing all the weights we can see that 1111 (15) is the heaviest weight I Binary True Navigation & revers laid att gritages To get to the leaf node that corresponds to the binary no. 10111, we need to follow the pats. Right > left > Right > Right > Right > Right

id	We know that Right corresponds to 1
	left coriresponds to 0:
	=> The path we shose contain 4 1's, which is ever.
I	Birry Sequence Grane era moderally pravide beringer at & end
	Griven Binary Number: 1010/01/010101010 0000001111
	the can convert all the 0's to 181's by using the following
5,4	Step-1: Elipping bits at positions 2,4,6
	P. IL' IIIIII alal and all all a
	Step 2! Elipping bits at positions 9,1413
	0 P = 0000001111
	Result!
	Step-3: Elipping bits at positions 14,16,20
	Result: [] [] [] [] [] [] [] [] [] [] [] [] []
	CZF 5 00000 11101
	Birary Paludrones
	Grives Binary Number: 1011011101
>	the given ro is not a palindrone



-> We can convert it into a palindrome by flipping I bit Transformed Binory Number: 10/1/11/01 · VIII Complex Birary Patterns wintras each on they of & Some of The required Binary Numbers are as follows, Gries Rivery Members 10/0/0/0/0/0/0/10 0000001111 allalloadoo in ou is le 181 at i'o of the treus as ell 1100110000 Step ! Flegging lite of parties 2/46 10/1/00000 Rosult 1111111010100101110 Recinal Horas Etyl Phipping but at pasition 9,113 1111000000 = 960 1101100000 = 864 05 31 411 mailing to stal griggill 8-9th Perut 1 1 HIII III HIII 10111000002752 II Birary Edindramon Course Birary Marchen 1011011101 enachilog a tor ei ar assig et &

X	Binary XOR lairs with constraints
	Oriver, Array = [101010, 011011, 110100, 001101, 100110, 111111,000000]
	Array = [10/010, 01/011, 1/0100, 00/10], 100/10, 1/1/1/1/00000]
	After applying XOR operation to its array, we can see that
	10 10 10 10 10 10 10 10 10 10 10 10 10 1
	011011 and 100110 give the maximum result.
->	This pair of numbers also do not iontain more than 3 consecutive 1's, they satisfy the required condition
	consenting 1's the entire the required condition
	- The required pair is [011011,100110].
X	Binary Multiples and Renainders
	Crives
	Birary Number 2/10/0/0
	Birary Number 2/10/0/0 Decimal form 2/06
	To check if 106 is a nultiple of 7, we divide 106 by 7.
\rightarrow	If the renainder is 0, 106 is a multiple of 7.
7	Otherwise 106 is not a multiple of 7.
	1067 gives us a renainder of 1.
	C 11 1: U 10 10 10 10 10 10 10 10 10 10 10 10 10
	So, the birary number 110/0/0 is not a multiple of 7'

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