Revision → for loop

operators

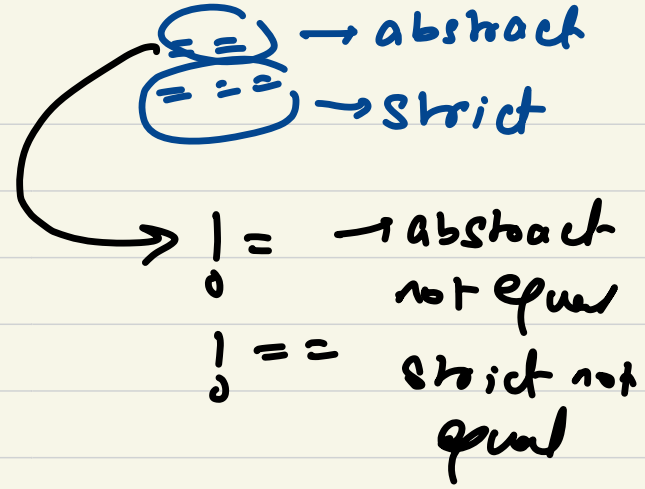
Sync Asyn

nested if else

('1' != 1)

false

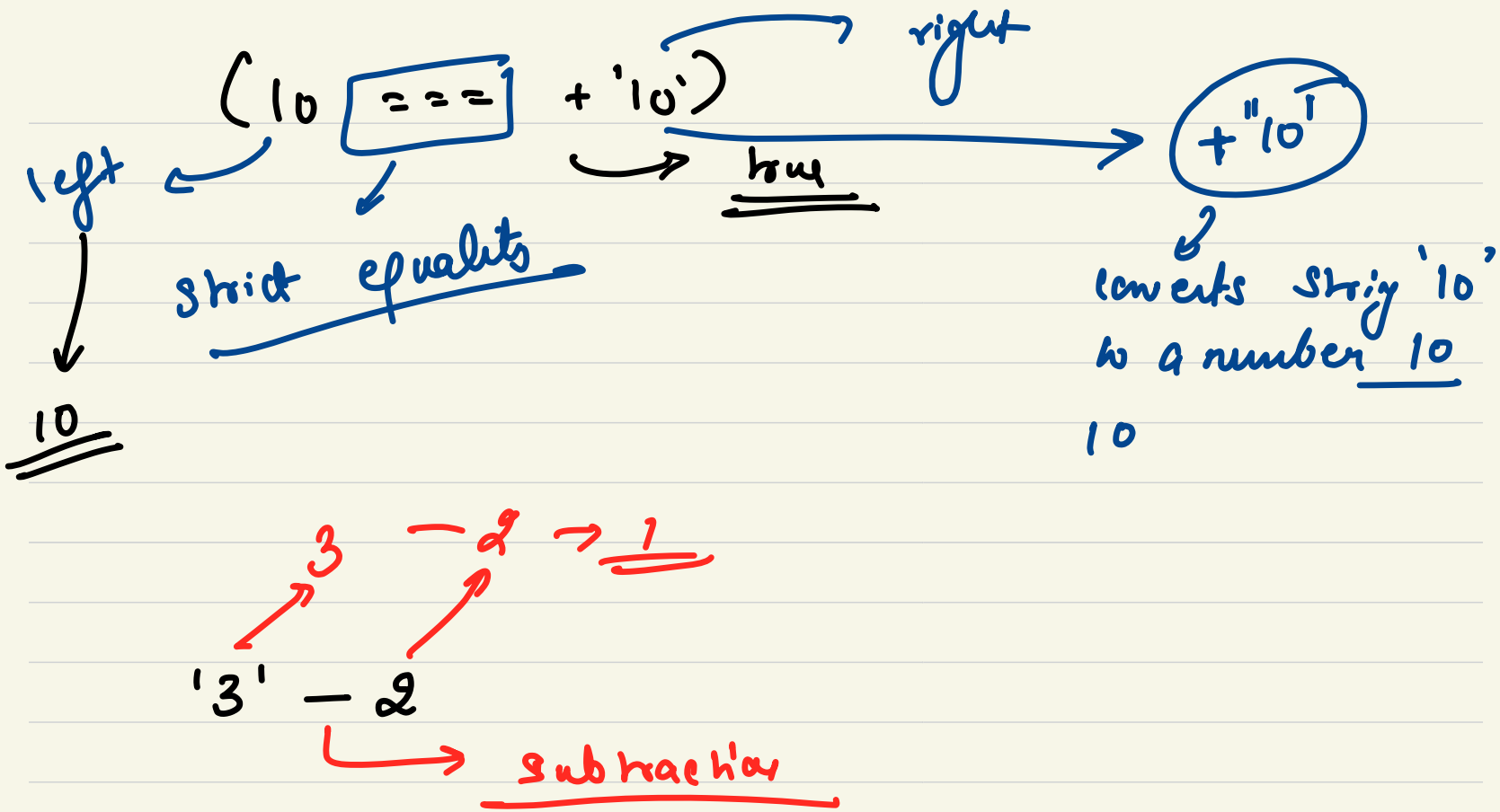
true



a = 2

if (a % 2 == 0); ==?

1 == 0 → NO


(10 === +'10')
right
left
10
strict equality
true
+"10"
converts string '10' to a number 10
10

3 - 2 → 1
'3' - 2
subtraction

Q: Given a number x, check if the number is even or odd by only using bitwise operator.

→ x = 7

decimal	Binary	
0	0000	→ E
1	0001	→ O
2	0010	→ E
3	0011	→ O
4	0100	→ E
5	0101	→ O
6	0110	→ E
7	0111	→ O
8	1000	→ E
9	1001	→ O

every even no. ends with a 0 bit.

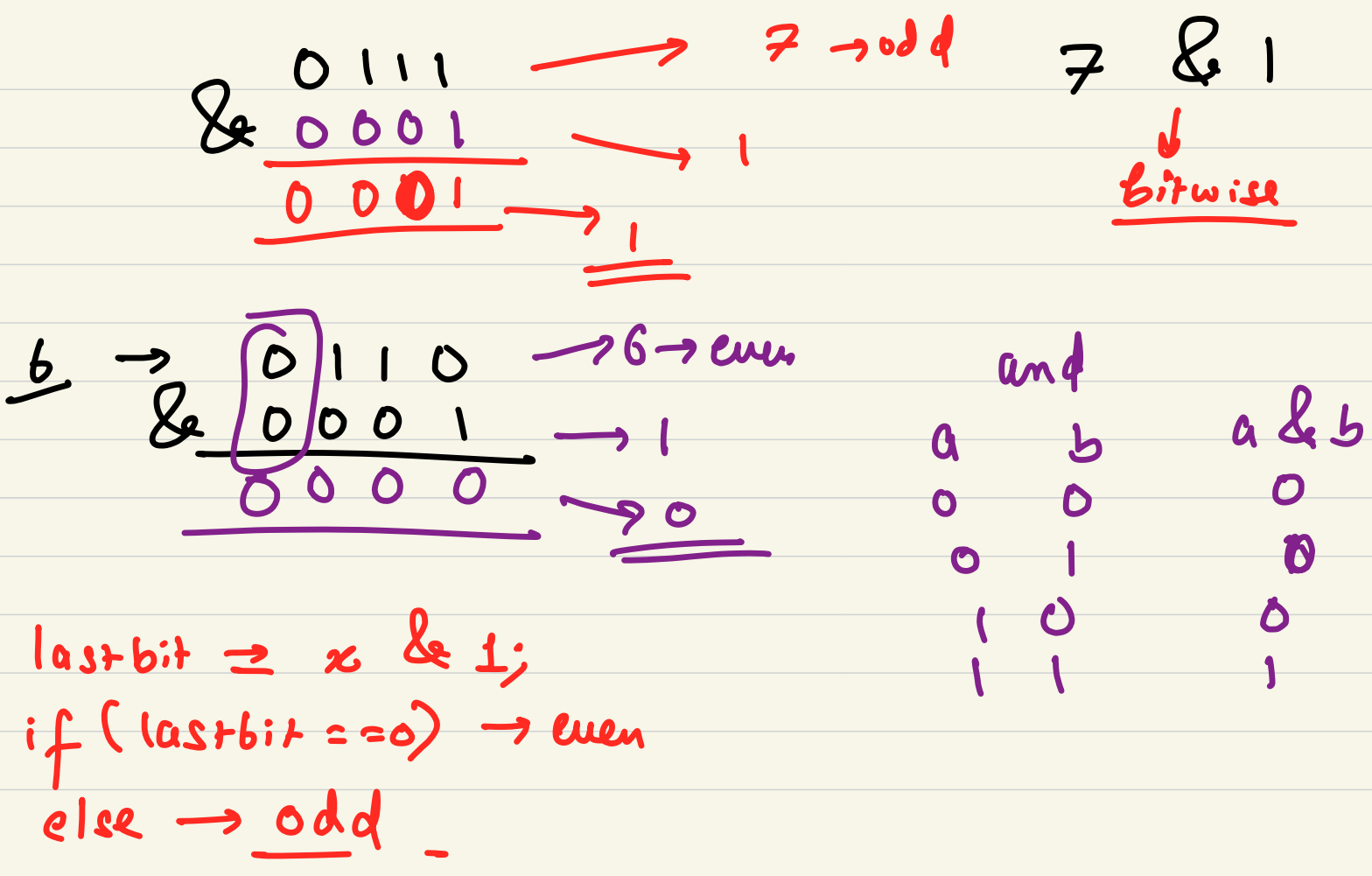
every odd no ends with a 1 bit

problem boils down to detecting what is the last bit of binary representation of a num.

last bit → 1 → odd

last bit → 0 → even

We don't care about other bits, only last bit is concern to us.


0 1 1 1
& 0 0 0 1
0 0 0 1
7 → odd
1
7 & 1
bitwise
b →
0 1 1 0
& 0 0 0 1
0 0 0 0
6 → even
1
0
and
a b
0 0
0 1
1 0
1 1
a & b
0
0
0
1
lastbit = x & 1;
if (lastbit == 0) → even
else → odd

a	b	a ^ b
0	0	0
0	1	1
1	0	1
1	1	0

b → 0 1 1 0

s → 0 1 0 1

q → 1 0 0 1

q → 1 0 0 1

b → 0 1 1 0

(q >> 1) → (100) << 1

q << 1

(y << 1) 1000

x

y = x >> 1

z = y << 1

x ^ z

$x = 9 \rightarrow 1001$

$y = x >> 1 \rightarrow 4$

$z = y << 1 \rightarrow 8$

$x \wedge z \rightarrow 9 \wedge 8$

```
 1001
 1000
 ----
 0001   → odd
```

$x = 6 \rightarrow 0110$

$y = x >> 1 \rightarrow 011 \rightarrow 3$

$z = y << 1 \rightarrow 0110 \rightarrow 6$

$6 \wedge 6 \rightarrow 0 \rightarrow$ even

'70' + 80 + 10

'7080' + 10

↓

'708010'

→ Coercion

String concatenation

'Sanket' + 'Singh'

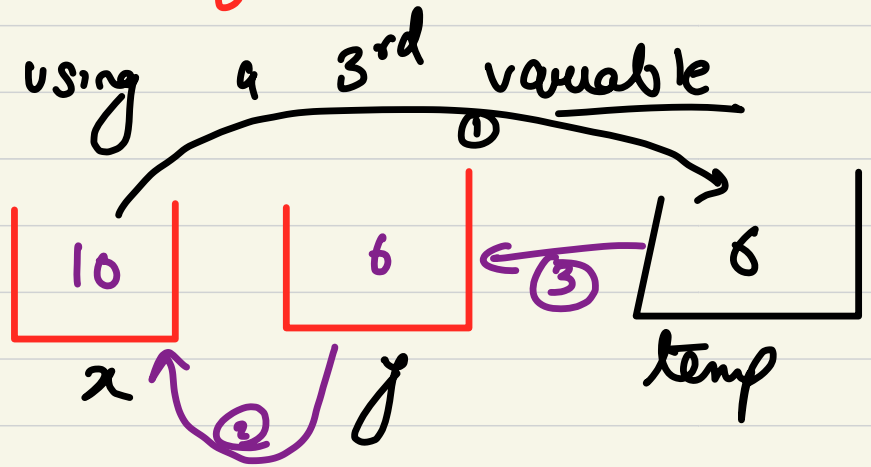
→ 'Sanket Singh'

Q. Given 2 numbers x and y, swap them.

Ex → x = 6 y = 10

Ans → x → 10 ~~y → 6~~

#1 → using a 3rd variable




```
let temp = x;
x = y;
y = temp;
```

#2 without using 3rd variable

$x = 6 \to 10$ $\quad y = 10 \to 6$

$x = x + y$

$y = x - y$

$x = x - y$

$x \to 16$ (6+10)

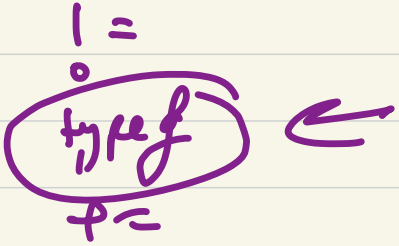
→ x is a combination of x & y

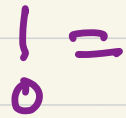
here the new x has content of old x & y, & if we remove y from it, we get old x

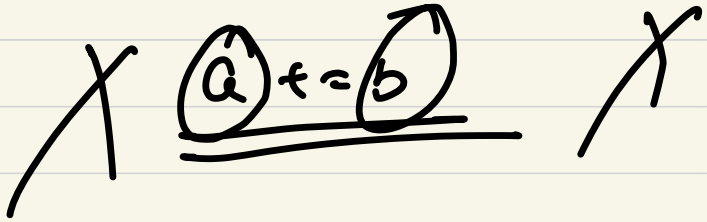
from new x remove new y

using bitwise

type g +

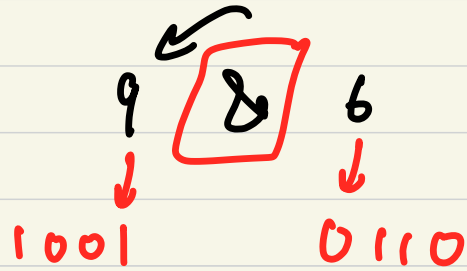






&& → logical and

& → bitwise and



$$
\begin{array}{r}
1001 \\
\& \;\; 0110 \\
\hline
0000 \\
\hline
\end{array}
$$

```
if ( condition1 ) {
    if (condition2) {

    } else {

    }
} else {

}
```


```
if ( userIsPrime ){
        if(user Is Subscribed To Disney ){
        } else if (user Is Subscribed to Disney){
        } else {
        }
} else{
    console.log ( "Buy Subscription");
}
```