

Problem Solving

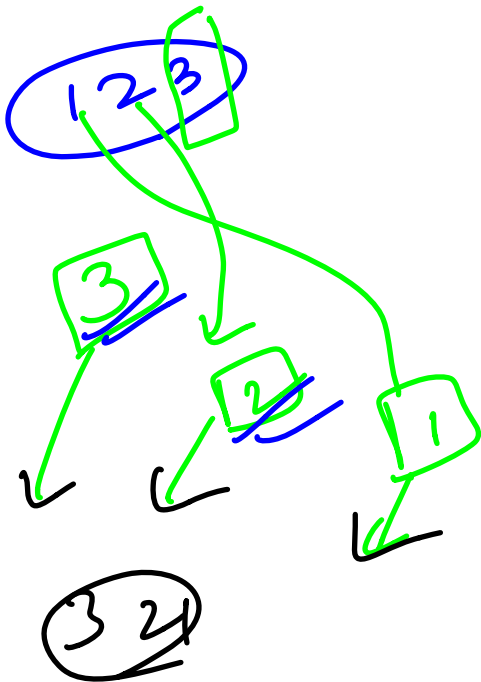
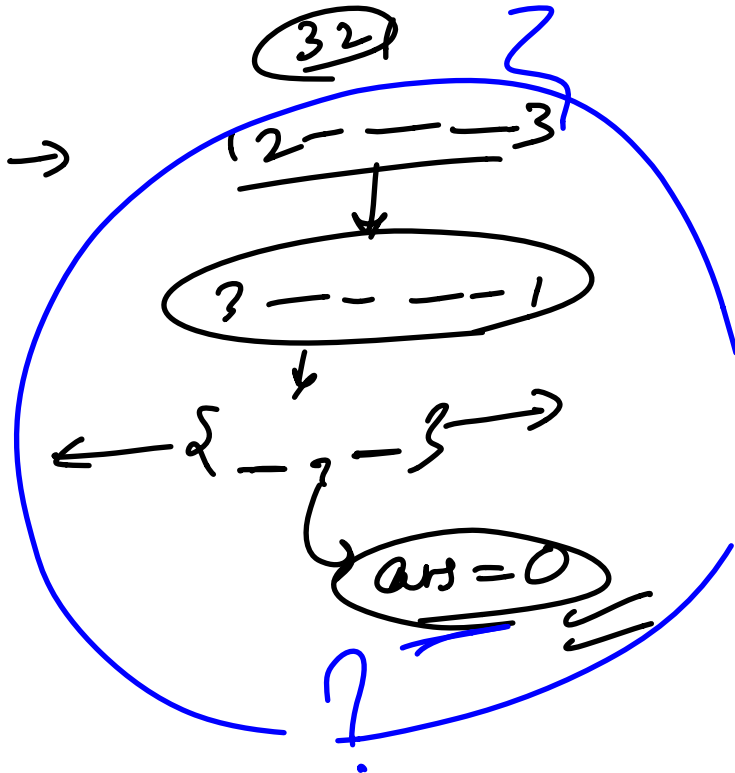
① Reverse Integer

Normal Calc →

123

321

Calc →



$$\text{num} = 123$$

$$\%10 = 123\%10 = 3$$

ans = 0

$$\text{ans} = \text{ans} \times 10 + \text{digit}$$

$$\text{③ } \text{ans} = 0 \times 10 + 3 = 3$$

$$\text{② } \text{ans} = (3 \times 10) + 2 = 32$$

$$\text{① } \text{ans} = (32 \times 10) + 1 = 321$$

$$\begin{array}{r} 546 \\ \downarrow \downarrow \downarrow \\ 100 \quad 10 \quad 1 \\ \hline 5 \times 100 + 4 \times 10 + 6 \times 1 \\ 500 + 40 + 6 \\ 546 \end{array}$$

digit = n/10

$$n = 12 \boxed{3}$$

$$ans = (\overset{32}{ans} \times 10) + \text{digit}$$

digit = 3	2	1
ans = 0, 3	32	321

n = 12 | 1 | 0 → 84690

n = n/10

12/10 int/int = 1.2 → 1
1/10 = 0

0/10 = 0

while (n != 0)

{ int digit = n%10;

ans = (ans * 10) + digit;

n = n/10;

}

INT_MAX

ans = 2³¹, 2³¹ - 1

INT_MIN

ans = 2³¹ - 10

ans * 10 = (2³¹ - 1) * 10

if (ans > $\frac{INT_MAX}{10}$)

$\frac{ans \times 10}{10} > \frac{INT_MAX}{10} \times 10$

$(ans \times 10) > INT_MAX$

return 0;

ans < $\frac{INT_MIN}{10}$

→ normal case → 123
↓
321
digit
 $ans = (ans \times 10) + digit$

→ exception case

no int
int range X
 $ans = 0$

ans x 10 → INT ~~sys~~

ans x 10 > INT_MAX
ans x 10 < INT_MIN

① ② ③ ④ ⑤ ⑥
% 10 → digit

ans ≥ $\frac{\text{INT_MAX}}{10}$ → ans = 0
ans < $\frac{\text{INT_MIN}}{10}$

⑦

Compliment Base 10 Int

n = 5 → 101
↓
010
↓
2 → ans

Binary to decimal
decimal to binary

7 → 111

in ans → 000 → 0

$n = 10$

↓

10

Binary
1010
↓
0101 → 5

&
-
~
^
<<
>>

$n = 5 \rightarrow 101$

↓
 0000 --- 0101

$ans = 2 \rightarrow 10$

↓
 0000 --- 0010

Bit

$n = 5 \rightarrow 101$

↓
 000 --- 0101

$n = 5$

1111 --- 111010

ignore

000000000011

mask

000000000010 → 2

mask → ?

$(n) \& \text{mask} \rightarrow \text{answer}$

mark = ?

25 → 000 - - .00 101

mark 0 0 0 0 0 0 111

1st → 000 - - 0101 → 1=0

2nd → 000 - - 0010 → 1=0

3rd → 000 - - 0001 → 1=0

→ 000 - - 0000 → 0=0

111

1=0

mark = 0

000 - - .000

000 0 0 0 0 0 0

011=1

000 - - .01

000 000 10

000 0 11

000

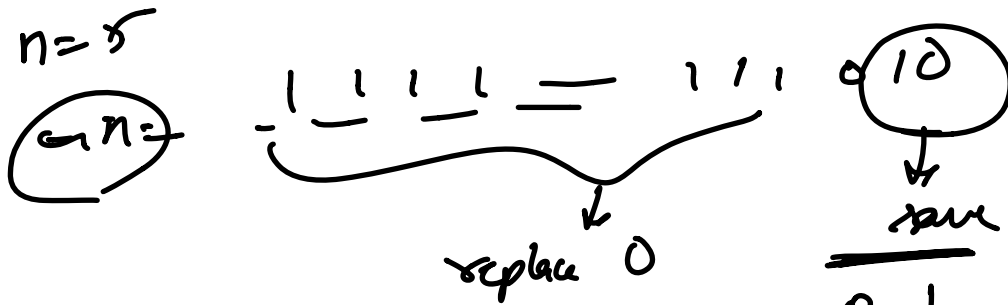
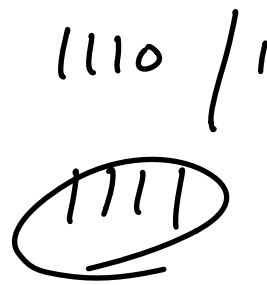
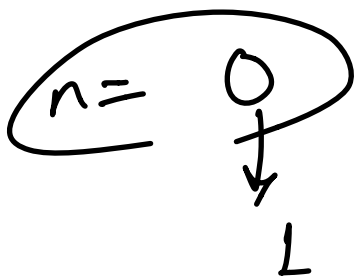
0000

0000 | 1 = 0001

0001 1

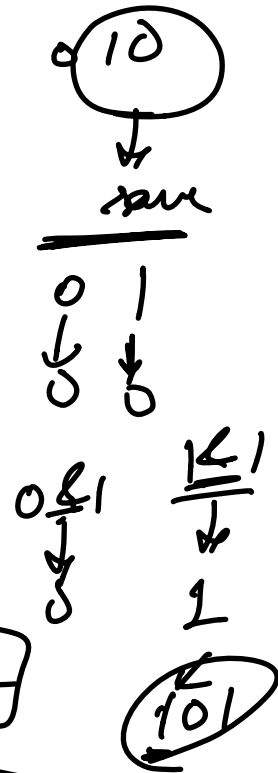
0011

0110 | 1 = 0111



1 \rightarrow 0
 1 & 0 \rightarrow 0

2



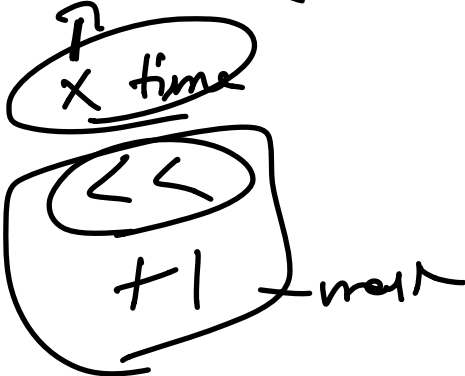
mask = 0 0 0 0 0 0 1 1 1

ans = ($\hookleftarrow n$) & mask

mask \rightarrow ?



last one



0000000
 <<
 +1

$\leftarrow 0000 \rightarrow 0000 + 1$
 $= 0001$
 $0010 + 1 = 0011$
 mask

② Power of 2

$n = 16 \rightarrow 2^4 \rightarrow \begin{cases} \text{True} \\ \text{false} \end{cases}$

$n = 2^n \rightarrow \begin{cases} \text{possible} \rightarrow \text{True} \\ \text{false} \end{cases}$

~~$0/0 \rightarrow$~~ $14/2 = 0 \times$
 $16/2 = 0 \checkmark$

$n = 16 \xrightarrow{-2} 8 \xrightarrow{-2} 4 \xrightarrow{-2} 2 \xrightarrow{-2} 1$
No Yes

$14 \xrightarrow{-2} 7 \xrightarrow{-2} 3 \xrightarrow{-2} 1$

2

2^1

0

2^2

=

$(2^1 \times 2^1)$

$r 1^{dt} \rightarrow$

$arr = (1 \times 2)$
 $= 2$

(2^1)

$arr = 2 \times 2$

$2^2 = 4$

$arr = 4 \times 2$

$(2^3 = 8)$

$i \geq 0$

$arr = 1 \times 2$
 $= 2^1$

$(i = 30)$

$= (2^3) \times 2$

(2^4)

2

