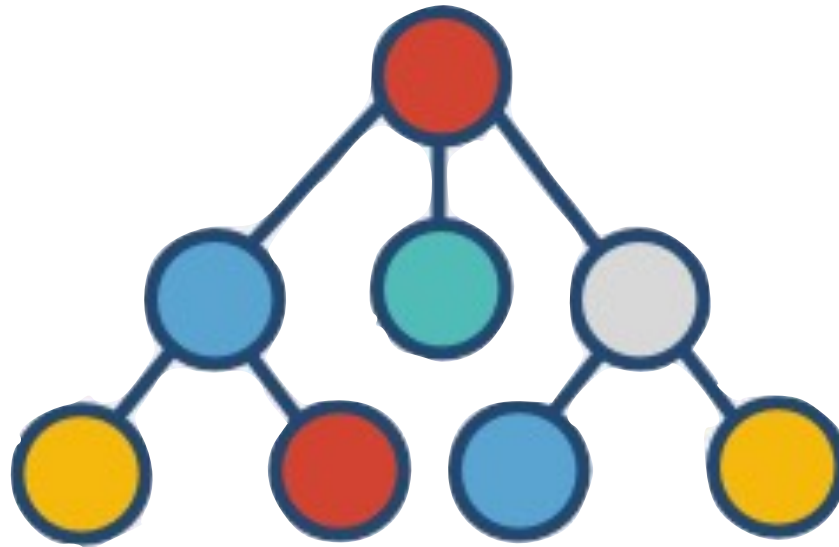


# DATA STRUCTURE & ALGORITHMS



**(By Prince Agarwal)**  
**( “HELLO WORLD” )**

## LEETCODE

0, 1, 2

Count\_0 = 4

Count\_1 = 4

Count\_2 = 2

---

N = 10

$O(n \log n) > O(n)$

0	1	2	1	1	0	0	2	0	1
---	---	---	---	---	---	---	---	---	---

N = 10

0	1	2	1	1	0	0	2	0	1
---	---	---	---	---	---	---	---	---	---



Count\_0



Count\_0  
+  
count\_1



Count\_0  
+  
count\_1  
+  
count\_2

Hello world

## LEETCODE

0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

$N = 7$

$L = 0$

$M = 0$

$H = N - 1$

0	1	2	1	2	0	1
↑	↑					↑
L	M					H

---

$A[m] == 0$       Swap with L  
                     $L++$   $M++$

$A[m] == 1$        $M++$

$A[m] == 2$       Swap with H  
                     $H--$

L index  $\rightarrow$  ke piche Sara element 0 hai

H index  $\rightarrow$  ke baad Sara element 2 hai

hello world

LEETCODE



0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

$N = 7$

$L = 0$

$M = 0$

$H = N - 1$

$N = 7$

0	1	2	1	2	0	1
---	---	---	---	---	---	---



L

M

H

$A[m] == 0$

Swap with L

L++ M++

$A[m] == 1$

M++

$A[m] == 2$

Swap with H

H--

while(  $m \leq h$  )

Hello world

LEETCODE



0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

N = 7

L = 0

M = 0

H = N-1

N = 7

0	1	2	1	2	0	1
---	---	---	---	---	---	---

↑ ↑  
L M

↑  
H

while( m <= h )

A[ m ] == 0      Swap with L  
                    L++ M++

A[ m ] == 1      M++

A[ m ] == 2      Swap with H  
                    H- -

Hello world

## LEETCODE

0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

$N = 7$

$L = 0$

$M = 0$

$H = N - 1$

---

$N = 7$

0	1	2	1	2	0	1
---	---	---	---	---	---	---

↑  
 $L$

↑  
 $M$

↑  
 $H$

---

**while(  $m \leq h$  )**

**$A[m] == 0$       Swap with  $L$   
                     $L++$   $M++$**

**$A[m] == 1$        $M++$**

**$A[m] == 2$       Swap with  $H$   
                     $H--$**

hello world

## LEETCODE

0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

$N = 7$

$L = 0$

$M = 0$

$H = N - 1$

---

$N = 7$

0	1	1	1	2	0	2
---	---	---	---	---	---	---

↑  
L

↑  
M

↑  
H

while(  $m \leq h$  )

$A[m] == 0$       Swap with L  
                    L++ M++

$A[m] == 1$       M++

$A[m] == 2$       Swap with H  
                    H--

Hello world

## LEETCODE

0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

$N = 7$

$L = 0$

$M = 0$

$H = N - 1$

---

$N = 7$

0	1	1	1	2	0	2
---	---	---	---	---	---	---

↑  
 $L$

↑  
 $M$

↑  
 $H$

**while(  $m \leq h$  )**

**$A[m] == 0$       Swap with  $L$   
                     $L++$   $M++$**

**$A[m] == 1$        $M++$**

**$A[m] == 2$       Swap with  $H$   
                     $H--$**

hello world



LEETCODE



0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

N = 7

L = 0

M = 0

H = N-1

N = 7

0	1	1	1	2	0	2
---	---	---	---	---	---	---

↑  
L

↑  
M

↑  
H

while( m <= h )

A[ m ] == 0      Swap with L  
                    L++ M++

A[ m ] == 1      M++

A[ m ] == 2      Swap with H  
                    H--

Hello world

LEETCODE



0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

N = 7

L = 0

M = 0

H = N-1

N = 7

0	1	1	1	0	2	2
---	---	---	---	---	---	---

↑  
L

↑  
M

↑  
H

while( m <= h )

A[ m ] == 0      Swap with L  
                    L++ M++

A[ m ] == 1      M++

A[ m ] == 2      Swap with H  
                    H--

Hello world

LEETCODE



0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

N = 7

L = 0

M = 0

H = N-1

N = 7

0	1	1	1	0	2	2
---	---	---	---	---	---	---

↑  
L

↑ ↑  
M H

while( m <= h )

A[ m ] == 0      Swap with L  
                    L++ M++

A[ m ] == 1      M++

A[ m ] == 2      Swap with H  
                    H--

Hello world

LEETCODE



0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

N = 7

L = 0

M = 0

H = N-1

N = 7

0	0	1	1	1	2	2
---	---	---	---	---	---	---

↑  
L

↑ ↑  
M H

while( m <= h )

A[ m ] == 0      Swap with L  
                    L++ M++

A[ m ] == 1      M++

A[ m ] == 2      Swap with H  
                    H--

Hello world

## LEETCODE

0, 1, 2

0	1	2	1	2	0	1
---	---	---	---	---	---	---

$N = 7$

$L = 0$

$M = 0$

$H = N - 1$

---

$N = 7$

0	0	1	1	1	2	2
---	---	---	---	---	---	---

↑  
L

↑  
H

↑  
M

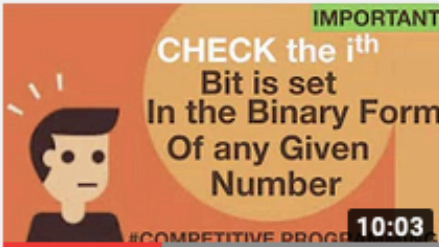




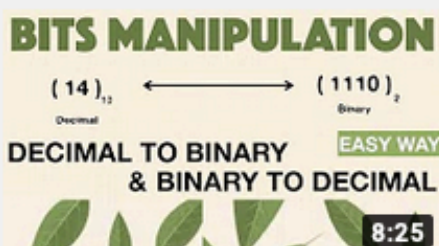
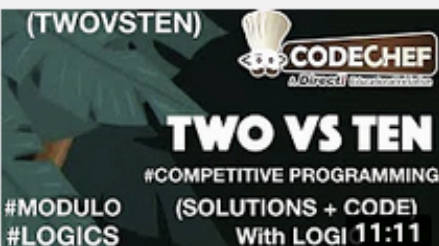








while(  $m \leq h$  )

$A[m] == 0$       Swap with L  
                    L++ M++

$A[m] == 1$       M++

$A[m] == 2$       Swap with H  
                    H--

Hello world

 <p><b>CHECK the <math>i^{\text{th}}</math> Bit is set In the Binary Form Of any Given Number</b></p> <p>IMPORTANT</p> <p>#COMPETITIVE PROGRAMMING 10:03</p>	 <p><b>COUNT THE NUMBER OF ONE'S PRESENT IN BINARY NUMBER</b></p> <p>VERY EASY</p> <p>#COMPETITIVE PROGRAMMING 13:44</p>	 <p><b>CHECK GIVEN NUMBER IS POWER OF 2 ?</b></p> <p>EASY WAY</p> <p>(FULL EXPLANATION WITH CODE)</p> <p>#BITWISE #BINARY</p> <p>HW Hello World</p> <p>#COMPETITIVE PROGRAMMING 15:28</p>	 <p><b>LEFT SHIFT RIGHT SHIFT BITWISE OPERATOR</b></p> <p>EASY WAY</p> <p>(PART - 02)</p> <p>#COMPETITIVE PROGRAMMING 15:24</p>	 <p><b>AND NOT XOR OR BITWISE OPERATOR</b></p> <p>EASY WAY</p> <p>(PART - 01)</p> <p>#COMPETITIVE PROGRAMMING 13:06</p>
<p>Check the <math>i^{\text{th}}</math> bit is set, in the binary form of given number...</p> <p>1.1K views • 1 year ago</p>	<p>Count the number of one's in binary representation of...</p> <p>1.6K views • 1 year ago</p>	<p>Check a given number is power of 2   Bitwise operator...</p> <p>3.2K views • 1 year ago</p>	<p>Left shift and right shift bitwise operator   ...</p> <p>1.4K views • 1 year ago</p>	<p>Bitwise Operators   AND   NOT   OR   XOR    Competitive...</p> <p>1.8K views • 1 year ago</p>
 <p><b>BITS MANIPULATION</b></p> <p>(14)<sub>10</sub> ↔ (1110)<sub>2</sub></p> <p>Decimal Binary</p> <p><b>DECIMAL TO BINARY &amp; BINARY TO DECIMAL</b></p> <p>EASY WAY</p> <p>#8:25</p>	 <p>(TWOVSTEN)</p> <p><b>TWO VS TEN</b></p> <p>#COMPETITIVE PROGRAMMING</p> <p>#MODULO #LOGICS</p> <p>(SOLUTIONS + CODE) With LOGI 11:11</p>	 <p>(CHEFROUT)</p> <p><b>CHEF AND HIS DAILY ROUTINE</b></p> <p>#COMPETITIVE PROGRAMMING</p> <p>(SOLUTIONS + CODE) With LOGI 12:56</p>	 <p><b>EUCLIDEAN ALGORITHM</b></p> <p>FINDING GCD OF TWO NUMBERS</p> <p>#COMPETITIVE PROGRAMMING</p> <p>12:31</p>	 <p><b>SEIVE OF ERATOSTHENES</b></p> <p>PART - 02 (CODE)</p> <p>#COMPETITIVE PROGRAMMING 12:01</p>
<p>Bits Manipulation   Decimal to Binary   Binary to Decimal...</p> <p>1.5K views • 1 year ago</p>	<p>Program of Two vs Ten Codechef - TWOVSTEN   ...</p> <p>1.3K views • 1 year ago</p>	<p>Program of chef and his daily routine - CHEFROUT   ...</p> <p>1.7K views • 1 year ago</p>	<p>Euclidean algorithm for finding GCD of 2 numbers   ...</p> <p>2K views • 1 year ago</p>	<p>Sieve of Eratosthenes -part 2    Competitive programming...</p> <p>2.2K views • 1 year ago</p>
 <p><b>SEIVE OF ERATOSTHENES</b></p> <p>PART - 01 (LOGIC)</p> <p>#COMPETITIVE PROGRAMMING 8:38</p>	 <p>#Concept / Program of #Prime Numbers</p> <p><b>CONCEPT OF PRIME NUMBERS</b></p> <p>#COMPETITIVE PROGRAMMING 13:38</p>	 <p>VERY IMPORTANT CONCEPTS</p> <p>#memset() function #In C/C++</p> <p><b>USE OF MEMSET()</b></p> <p>#COMPETITIVE PROGRAMMING 12:00</p>	 <p>(FANCY)</p> <p><b>FANCY QUOTES</b></p> <p>#COMPETITIVE PROGRAMMING (SOLUTIONS + CODE) With LOGI 15:46</p> <p>#Strings #getline()</p>	 <p>(ALPHABET)</p> <p>#Clears String Concept #String</p> <p><b>STUDYING ALPHABET</b></p> <p>#COMPETITIVE PROGRAMMING (SOLUTIONS + CODE) With LOGIC 24:28</p>
<p>Sieve of Eratosthenes -part 1    Competitive programming...</p> <p>3.4K views • 1 year ago</p>	<p>Program and concept of prime numbers.   ...</p> <p>2.1K views • 1 year ago</p>	<p>memset() function in C/C++ and its syntax.    Competitive...</p> <p>4.3K views • 1 year ago</p>	<p>problem of Fancy Quotes    getline() in strings --FANCY...</p> <p>2.1K views • 1 year ago</p>	<p>Concept of Handling the String related problems -...</p> <p>3.4K views • 1 year ago</p>

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