Number Systems

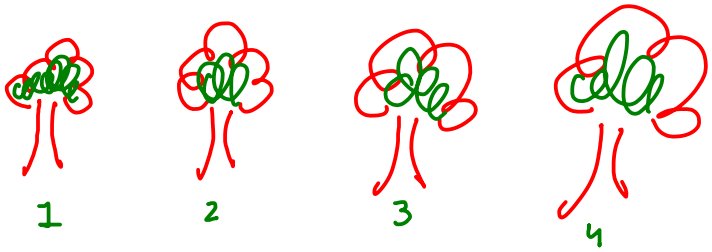
What we will learn today?

- Natural Numbers and whole numbers
- meaning of >, <, =
- number line
- predecessor and successor
- Divisible definition (remainder = 0)
- prime number vs composite
- Test of divisibility
- Factors and multiples

1) Natural Numbers

→

2 → you can count this



↳ we can count the number of trees

→ no ball is there in the bowl

→ NO! We can not count

→ No ball = nothing = zero

- Natural Numbers: The numbers which we can counts

1, 2, 3, 4, . . . , 100, . .

But remember zero = 0 is not a natural Numbers.

- Zero is a very important number.

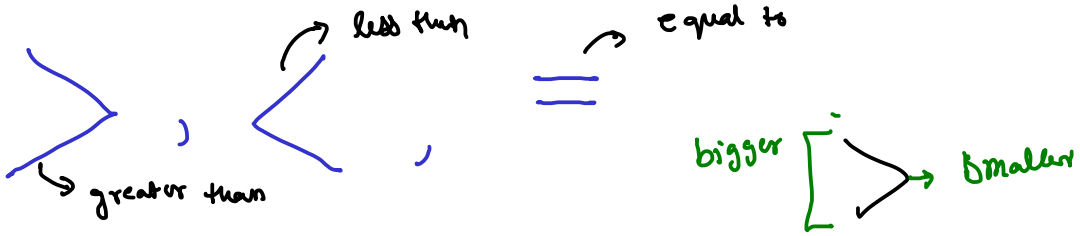
It has no value but it add value to other number.

10 → It's making 1 to 10

- 0, 1, 2, 3, . . .

0 + Natural numbers → Whole numbers

2> Symbols that are used to compare two numbers



Example: 799 > 125

63 < 1002

100 = 100

Competition

1) 100 [>] 0 greater than symbol

2) 2 [=] 2

3) 4 [<] 20 less than symbol

4) 51 [<] 101 less than symbol

5) 8828 [<] 11111 less than symbol

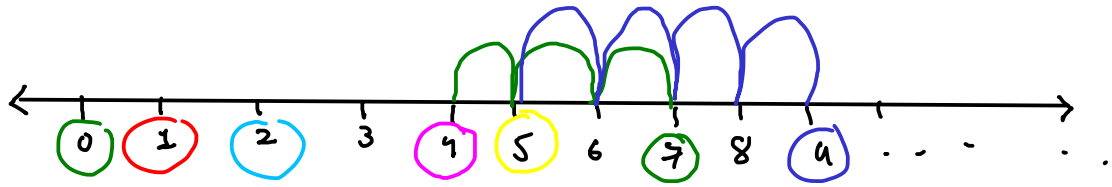
6) 212 [<] 2120 less than symbol

7) 1 [>] 0 greater than symbol

Number line :-

4 + 3 = 7 jumps

5 + 4 = 9



predecessor of 1 = 1 − 1 = 0

Successor of 1 = 1 + 1 = 2

predecessor of 10 = 9

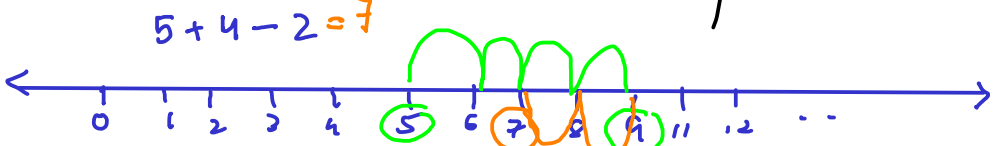
successor of 10 = 10 + 1 = 11

predecessor of 7 = 6

predecessor of 24 = 23

Successor of 24 = 25

5 + 4 − 2 = 7



When you say 26 is divisible by

1) 20 is divisible by 10

→ When you divide 20 by 10, the remainder is zero

because 10 can divide 20 (as $20 = 10 \times 2$)

2) 3 is divisible by 3

→ when you divide 3 by 3, the remainder is zero.

because 3 divides 3.

3) 100 is divisible by 9?

→ False, because remainder is 1.

1) Is 100 divisible by 3? No, because the remainder is not zero, it is one.

$$3 \overline{)100}\ 33,\ -9,\ 10,\ -9,\ 1$$

2) Is 1010 divisible by 2? yes

3) What is the predecessor of 20? $20 - 1 = 19$

4) What is predecessor of 1? $1 - 1 = 0$

5) what is successor of 989? $989 + 1 = 990$

6) Is 779 divisible by 5? No

7) Is 10110 divisible by 30? yes

$$30 \overline{)10110}\ 337,\ -90,\ 11,\ -90,\ 210,\ -210,\ 0$$

Prime number → a number that is divisible by itself and 1. only.

Note :- Every number is divisible by 1.

19 is divisible by 1

19 x 1 = 19

2, 3,

6 is not a prime number

it is divisible 3 and 2

12 is not a prime number

it is divisible by 2, 3, 4, 6

Write if the number is prime or not.

1) 100 → No, because it is divisible by 10, 5, 4, 25, 50, 2

2) 73 → Yes

3) 51 → No, because it is divisible by 3, 17

4) 20 → No, because it is divisible by 2

5) 112 → No, " "

6) 75 → No, because it is divisible by 5

7) 91 → No, because it is divisible by 7.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

57 is not a prime as it is divisible

97 is a prime number

Class over!!