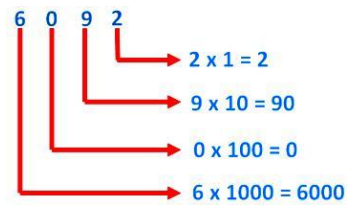


NUMBER SYSTEM



SUCHI BANSAL



PLACE VALUE SYSTEM

INDIAN NUMERAL SYSTEM

INDIAN PLACE VALUE SYSTEM								
CRORES		LAKHS		THOUSANDS		ONES		
TC	C	TL	L	T-Th	Th	H	T	O

In the number **10,23,45,678** the place values of each digit are:

- 8 – Ones
- 7 – Tens
- 6 – Hundreds
- 5 – Thousands
- 4 – Ten Thousands
- 3 – Lakhs
- 2 – Ten Lakhs
- 0 – Crores
- 1 – Ten Crores

Let us consider another number, say 225.

- The digit 2 is used twice in this number. Both of them have a different value.
- We differentiate them by stating their place value,
- **The place value of the leftmost 2 is Hundreds while the one in the center is Tens.**

The relationship between them is:

- 1 hundred = 10 tens
- 1 thousand = 10 hundreds = 100 tens
- 1 lakh = 100 thousands = 1000 hundreds
- 1 crore = 100 lakhs = 10,000 thousands

INTERNATIONAL NUMERAL SYSTEM

INTERNATIONAL PLACE VALUE SYSTEM								
MILLIONS			THOUSANDS			ONES		
HM	TM	M	H-Th	T-Th	Th	H	T	O

The place values of digits go in the sequence of **Ones, Tens, Hundreds, Thousands, Ten Thousands, Hundred Thousands, Millions, Ten Millions and so on**, in the international numeral system.

In the number **12,345,678** the place values of each digit are:

- 8 – Ones
- 7 – Tens
- 6 – Hundreds
- 5 – Thousands
- 4 – Ten Thousands
- 3 – Hundred Thousands

- 2 – Millions
- 1 – Ten Millions

The relations between them are:

- 1 hundred = 10 tens
- 1 thousand = 10 hundreds = 100 tens
- 1 million = 1000 thousands
- 1 billion = 1000 millions

COMPARISON BETWEEN INDIAN AND INTERNATIONAL NUMERAL SYSTEM

INDIAN NUMERATION	CRORE	TEN LAKH	LAKH	TEN THOUSAND	THOUSAND	HUNDRED	TENS	ONES
NUMBERS	1,00,00,000	10,00,000	1,00,000	10,000	1,00,0	100	10	1
INTERNATIONAL NUMERATION	Ten Million	Million	Hundred Thousand	Ten Thousand	Thousand	Hundred	Ten	Ones

Comparing the two numeral systems we observe that:

- 100 thousands = 1 lakh
- 1 million = 10 lakhs
- 10 millions = 1 crore
- 100 millions = 10 crores

PLACEMENT OF COMMA

Commas are placed in the large numbers to help us read and write them easily. In Indian and international systems, the commas are placed at different positions.

As per Indian numeral system,

the first comma is placed after the hundreds place

after which they are placed after every two digits. **E.g., 1,23,45,67,890**

As per international numeral system,

the **first comma is placed after the hundreds place,**

after which they are placed after every three digits. **E.g. 1,234,567,890.**

FACE VALUE

Face value is the value of the digit itself, in a number.

Whether the number is single-digit, double-digit, or three-digit or any number, The face value will be the value of the digit without its placement in the face value Chart.

Let us understand with the help of examples.

Example in 89: The face value of 8 is 8 and the face value of 9 is 9.

For number 52319: The face value of 3 is 3, the face value of 5 is 5.

In case of face value, it hardly matters where the digit is placed in the place value chart. The face value will always be the value of the digit.

PLACE VALUE AND FACE VALUE

Place value of a digit = (face value of the digit) × (value of the place)

Let us take an example of a number say, 8723. Check the table below to understand the difference.

Digits	Place Value	Face Value
8	8000 (Thousands)	8
7	700 (Hundreds)	7
2	20 (Tens)	2
3	3 (Units or ones)	3



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