VEDIC MATH

Squaring of bigger numbers near the base

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Today we look at how to find the square of big numbers that are less than base numbers.

Let us consider **994^2**

- The base is 1000. 994 is 6 less than the base so the deficient is **6**.
- Subtract the deficient from the given number to get the first part of the answer. 994 – 6 = **988.**
- Square the deficient to get the second part of the answer. 62 = **36.**
- Since the number of digits in the second part should be equal to the number of zeros in the base 36 is taken as **036.**

Answer: 988036

Let us try another problem, **9999^2**

First, do you think this is an easy or a difficult problem? To do this problem by the usual method you need to do a lot of multiplication. You need to do the 9 x 9 step by step in four rows and then add them. But when we use the vedic math method, it is so simple one can calculate mentally.

9999 —1 = 9998(Base is 10000 and deficient is **1**)
$1^2 = 1$. But we need four digits in this part of the answer so 0001
Answer: 99980001

Let us try with a number ending in 5
9945^2
9945 - 55 = **9890** (Base is 10000 and deficient is **55**)
552 = (5x6)25 = **3025**
Answer: 98903025

For the second part of the answer we used the method for finding the square of a number ending in 5, where we multiply the first part by its consecutive number (5 x 6) and then square the second part ($5^2 = 25$).

Things to remember while using this method:

- If a number is **less than the base, subtract** the deficient from the number to get the first part of the answer. Square the deficient to get the second part of the answer.
- If the number is **greater than the base** then **add** the increment to get the first part of the answer and square the increment to get the second part of the answer.
- The same method is used for all numbers whatever be the number of digits.