For instance, $1984 = 1000 + 900 + 80 + 4 = 1(10^3) + 9(10^2) + 8(10) + 4$. The value of the symbol "9" is not nine, but nine (the face value of "9") times a hundred (the place value of the "9" in 1984).
To emphasize the value of each symbol we

➜ write the numeral in expanded form, or in expanded exponential form:

  EG: $268 = 200 + 60 + 8 = 2 \cdot 100 + 6 \cdot 10 + 8 = 2 \cdot 10^2 + 6 \cdot 10^1 + 8 \cdot 10^0$

    $1403 = 1000 + 400 + (0 \times 10) + 3 = 1 \times 10^3 + 4 \times 10^2 + 3$ Or $1 \times 10^3 + 4 \times 10^2 + 0 \times 10^1 + 3 \times 10^0$

$1{,}450{,}702 = 1{,}000{,}000 + 400{,}000 + 50{,}000 + 700 + 2 = 1 \times 10^6 + 4 \times 10^5 + 5 \times 10^4 + 7 \times 10^2 + 2$

The number 1,400,700 is read: "one million, four hundred thousand, seven hundred".
The long form (think '*longhand*') of 62,401,059 is: Sixty-two million, four hundred one thousand, fifty-nine.
 Notice there is no "and" in the name of the number. Also note the reading pauses match the commas above.

Most of the time, we read and express the numbers in groups of three: 234,107 is
two hundred thirty-four thousand [s], one hundred seven.
Exceptions are made:
E.g. 1345 may be read "one thousand, three hundred forty-five" or "thirteen hundred forty-five".

Write the numeral for three billion, seventy thousand, two hundred ninety-eight: 3,000,070,198
OTHER NUMBER BASES
Consider the following constellation:
(as seen from the planet ZRKL)
... containing twenty-seven stars.

In base ten we write this number as 27, since there are 2 groups of ten ("tens"), with 7 stars
 ("units") remaining.

In base four, we group in fours. There are SIX groups of   ★★★★ ...
 which can be grouped on a higher level as ONE group of sixteen, or "four-by-four"
                with one group of ★★★★ remaining,
                 . . . and there are 3 remaining "units" (★).

       Thus this number would be written as: 1   2   3

is ★★★★ + ★★★★ + ★ ★ ★

... is 1 group of sixteen,
2 groups of four,
and 3 units.

How would you write this number in base five?   1   0   2 $_{\text{FIVE}}$

Notice that writing numbers in base five, we need only five symbols to write the numbers.

Computers use base two, so that only two symbols (0 & 1, or "off" & "on" are needed).

Arithmetic   21
Base   133   420   420   31 $\overline{)\,24020}$ $_{\text{FIVE}}$
Five   231 $-\ 321_{\text{FIVE}}$ $\times\ 31_{\text{FIVE}}$
☆ $+\ 441_{\text{FIVE}}$
                   10

3+1+1 = five, which in base five, is "10"$_{\text{FIVE}}$.
(Write 0 & "carry" the "1" to the tens column.)
1+4= five 3+3 =five+1, so leave the 1 & "carry" the 2 fives to the next column.

1310, 44, 24020, SC

EX: > or < or = ?   37 ☐ 52   72 ☐ 27   Order these: 4321   2143   3124   4312

What is the smallest number represented using these four digits: 0 5 6 2 ? Largest ?   (*No leading 0)