

INT():

$$x = 3.94$$

$$y = \text{INT}(x) = 3$$

Uses of INT() Function:

1. Finding if entered number is a whole number or real number.

<p>INPUT <math>x</math></p> <p><math>y \leftarrow \text{INT}(x)</math></p> <p>IF <math>x = y</math> THEN</p> <p>    OUTPUT "Whole"</p> <p>ELSE</p> <p>    OUTPUT "Real"</p> <p>ENDIF</p>	<table border="0"> <tr> <td><math>\frac{x}{y}</math></td> <td><math>\frac{y}{y}</math></td> </tr> <tr> <td><math>\frac{4.83}{5}</math></td> <td><math>\frac{4}{5}</math></td> </tr> </table> <p>(Red box around 4.83, arrow pointing to 4)</p>	$\frac{x}{y}$	$\frac{y}{y}$	$\frac{4.83}{5}$	$\frac{4}{5}$
$\frac{x}{y}$	$\frac{y}{y}$				
$\frac{4.83}{5}$	$\frac{4}{5}$				

2. Digit Extraction

Means:

$$x = \boxed{12}489$$

$$y = \text{INT}\left(\frac{x}{1000}\right) = \text{INT}\left(\frac{12489}{1000}\right) = 12.489$$

$$\text{Cell} \leftarrow \boxed{311}222925$$

$$\text{INT}\left(\frac{311222925}{1000000}\right)$$

$$= \text{INT}(311.222925)$$

$$= 311$$

Consider two (2) things: (Always given)

1. Length of number; i.e. how many digits are there in entered number.
2. How many digits are required to be extracted and find the divisor accordingly.

Extract 5 digits.

$$x = \text{INT}\left(\frac{99999}{10000}\right)$$

↓ 5 digits  
divisor

Extract 4 digits.

$$x = \text{INT}\left(\frac{9999}{1000}\right)$$

DIVISIONS:

$\begin{array}{r} \boxed{5} \\ 3 \overline{) 16} \\ \underline{15} \\ 11 \end{array}$ <p style="text-align: right;">DIV() MOD()</p>	<p><math>16/3 = 5.3333</math> Absolute</p> <p><math>16 \text{ DIV } 3 = 5</math>     <math>\text{DIV}(16,3)</math></p> <p><math>16 \text{ MOD } 3 = 1</math>     <math>\text{MOD}(16,3)</math></p>
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Example Scenario:

$\begin{array}{r} \boxed{43} \text{ DIV} \\ 9 \overline{) 392} \\ \underline{387} \\ 5 \end{array}$ <p style="text-align: right;">MOD.</p>	<p>pencils(p) = 392</p> <p>pencils per box(B) = 9</p> <p>How many full boxes (F)?</p> <p>How many leftover (L)?</p> <p><math>F = P \text{ DIV } B</math>     <math>392 \text{ DIV } 9 = 43</math></p> <p><math>L = P \text{ MOD } B</math>     <math>392 \text{ MOD } 9 = 5</math></p>
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Example Question:

- INPUT 150 numbers
- OUTPUT How many numbers are odd and How many numbers are even.

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Count ← 0, Num ← 0, x ← 0,
E ← 0, Odd ← 0.
For Count ← 1 TO 150
    INPUT Num
    x ← Num MOD 2
    IF x = 0 THEN E ← E + 1
    IF x = 1 THEN Odd ← Odd + 1
Next
OUTPUT E, Odd
    
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$\begin{array}{r} 3 \\ 2 \overline{) 7} \\ \underline{6} \\ 1 \end{array}$ <p style="text-align: right;">MOD → 1 Odd</p>	$\begin{array}{r} 4 \\ 2 \overline{) 8} \\ \underline{8} \\ 0 \end{array}$ <p style="text-align: right;">Even</p>
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LOG10():

$$\text{LOG}(1000) + 1 = 3$$

10 × 10 × 10

$$\text{LOG}(10000) + 1 = 4$$

10 × 10 × 10 × 10

$$\text{LOG}(1250) + 1 = 3.0969$$

$$\text{INT}(\text{LOG}(1250)) + 1 = 3$$

Purpose???

Is to find how many digits are there in the entered number.

INPUT Num

$$x \leftarrow \text{INT}(\text{LOG}(Num)) + 1$$

Num	$\frac{x}{y}$
10000	5
500	3
3000	4