Functions in Algorithms

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INT() INTEGER FUNCTION.

There are two purposes:

1) Digit extraction
2) Finding whole number entered.

Digit Extraction:

Given:

1) Number of digits in number
2) Number of digits to extract from left.

Example:

$x = 39546$

SD = INT(x/10000)

TD = INT(x/1000)

ThreeD = INT(x/100)

$SD = INT\left(\frac{39546}{10000}\right) = 3$

$TD = INT\left(\frac{39546}{1000}\right) = 39$

$ThreeD = INT\left(\frac{39546}{100}\right) = 395$

Finding Whole Number:

n = 3.97

m = INT(n)

IF n and m are equal then n is a whole number

n	m	Is Whole Number
3	3	Yes
3.8	3	No
5.97	5	No
9.58	9	No
8	8	Yes.

DIVISION Functions:

$$2\overline{)9}\quad 4 \text{ DIV},\ 8,\ 1 \text{ MOD}$$

9 / 2 = 4.5

9 DIV 2 = 4

9 MOD 2 = 1

- INPUT 1000 Numbers
- OUTPUT How many are even and odd numbers.

```
Count ← 0, N ← 0, x ← 0, even ← 0,
odd ← 0
For Count ← 1 TO 1000
    INPUT N
    x ← N MOD 2
    IF x = 0 Then even ← even + 1
    IF x = 1 Then odd ← odd + 1
Next
OUTPUT even, odd
```