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:

$9 \div 2$: 4 → DIV, remainder 1 → 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
```

LOG() Function: We use Log() function to find number of digits in an entered number.

```
INPUT Num
X ← INT(LOG(Num)) + 1
OUTPUT X
```

INT(), DIV(), MOD(), LOG()

DIV(), MOD() → DIVISIONS.