$$\overset{0\quad 1\quad 2\quad 3\quad 4\;5\quad 6\quad 7\quad 8}{12\;,\overset{}{1},\overset{}{2},\overset{}{3},\overset{}{4},\overset{}{5},6,7,8,9,}$$

$$\overset{9\qquad 10\qquad 11}{10\,,\,11\,,\,12\,,\,1\,,\,2\,,\;\ldots\,.}$$

$f(x)$

$x \to \infty$

$0 - 10$

$\boxed{x \, \% \, \cancel{x} + 1 =}$

$\cancel{12}$

$11 \, \% \, 11$

$\dfrac{0}{11} = 0 \quad R:0$

$\dfrac{1}{11} = 0 \; R$

$$f(x) = 1, 2, 3, 1, 2, 3, 1, 2, 3$$
$$y = 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$$

hours

$X \% 12 + 1$

count by

12

$f(12)$

$12 \% 3$

0

$f(985)$

$X \% 3$

120

123

$$x = \quad 1 \quad\quad 2 \quad\quad 3$$

$$f(x) = \quad 1 \quad\quad 2 \quad\quad 0$$

$$f(x) = X \% 3$$

whole numbers

$9 \% 3 =$ What is the Remainder
when $9 \div 3$

$\dfrac{9}{3} = 3$ $\dfrac{10}{3} = 3$ $\dfrac{11}{3} = 3$

$9 - \left(\left(\dfrac{9}{3} \right) * 3 \right)$ $10 - \left(\left(\dfrac{10}{3} \right) * 3 \right)$

$10 - (3 * 3)$

$10 - 9 = 1$

$$n \% y = 0$$

$$[0, n-1]$$

$$y \text{ is a divisor of } n$$

$$n \% y = 1$$

y is off by one from a divisor

$$n \% y = n-1$$

y is off by one from a divisor

$$O \to 3$$

$$f(x) = \begin{cases} x\%3 \, != 0 : & x\%3 \\ x\%3 == 0 : & 3 \end{cases}$$

$$f(985) = 1$$
$$f(984) = 3$$

$$X \% y = \text{Remainder}$$
$$\text{of } X \text{ dividing } y$$

Whole Numbers

6	7	8	9	10	11	12	1
-2	-1	0	1	2	3	4	5

Symbol AND &&

Code AND *

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