

Float Fx(Float x)

Declarar $a = -2, b = 2, h = 0.25, n, x[n], fpa[n], fpb[n], fpc[n],$
 $sda[n], sdb[n], sdc[n], i$

For $i = 0$ hasta n

$$x[i] = a + i * h$$

For $i = 0$ hasta $i = n$

$$fpa[i] = \frac{F(x[i+1]) - F(x[i])}{h}$$

$$fpb[i] = \frac{F(x[i]) - F(x[i-1])}{h}$$

$$fpc[i] = \frac{F(x[i+1]) - F(x[i-1])}{h}$$

Imprimir "Primera derivada"

Imprimir "x Adelante Atrás Centrada", $x[i], fpa[i], fpb[i], fpc[i]$ For $i = 0$ hasta $i = n$

$$sda[i] = \frac{F(x[i+2]) - 2 * F(x[i+1]) + F(x[i])}{h * h}$$

$$sdb[i] = \frac{F(x[i-2]) - 2 * F(x[i-1]) + F(x[i])}{h * h}$$

$$sdc[i] = \frac{F(x[i+1]) - 2 * F(x[i]) + F(x[i-1])}{h * h}$$

Imprimir "Segunda derivada"

Imprimir "x Adelante Atrás Centrada", $x[i], sda[i], sdb[i], sdc[i]$

Float Fx(Float x)

regresar $x * x * x - 2 * x + 4$

Diagrama de Flujo

INICIO

Declarar Función
Float Fx(Float x)

Declarar int i
Float a=-2, b=2,
h=0.25, x[n], Fpa[n], Fpd[n],
Fpc[n], sda[n], sdb[n], sdd[n]
int n=(int)((b-a)/h)+1

Inicializar

For i=0 hasta n

$x[i] = a + i * h$

For i=0 hasta n

$Fpa[i] = F(x[i+1]) - F(x[i]) / h$

$Fpb[i] = F(x[i]) - F(x[i-1]) / h$

$Fpc[i] = F(x[i+1]) - F(x[i-1]) / h$

Imprimir "Primera derivada"

Imprimir "x[i] Fpa[i] Fpb[i] Fpc[i]"

For i=0 hasta n

$sda[i] = F(x[i+2]) - 2 * F(x[i+1]) + F(x[i]) / h^2$

$sdb[i] = F(x[i-2]) - 2 * F(x[i-1]) + F(x[i]) / h^2$

$sdc[i] = F(x[i+1]) - 2 * F(x[i]) + F(x[i-1]) / h^2$

Imprimir "Segunda derivada"

Imprimir "x[i] sda[i] sdb[i] sdc[i]"

Float Fx(Float x)

regresar $x^3 * x - 2 * x + 4$

FIN