

# Diagrama de Flujo

INICIO

Declarar Float  $x_{i1}, x_i, x_{i2}, f_{i1}, f_i,$   
 $f_{i2}, f_{ad}, f_{at}, f_{cen}, error\_ad,$   
 $error\_at, error\_cen, error\_real$

$x_{i1} = 0 \quad x_i = 0.5 \quad x_{i2} = 1$   
 $f_{i1} = 1.2 \quad f_i = 0.925 \quad f_{i2} = 0.2$   
 $error\_real = -0.9125$

Derivada hacia adelante  
 $f_{ad} = (f_{i2} - f_i) / (x_{i2} - x_i)$   
 $error\_ad = (error\_real - f_{ad}) \cdot 100$   
 $error\_real$

Derivada hacia atrás  
 $f_{at} = (f_i - f_{i1}) / (x_i - x_{i1})$   
 $error\_at = (error\_real - f_{at}) \cdot 100$   
 $error\_real$

Derivada centrada  
 $f_{cen} = (f_{i2} - f_{i1}) / (x_{i2} - x_{i1})$   
 $error\_cen = (error\_real - f_{cen}) \cdot 100$   
 $error\_real$

Printf("Valores de las derivadas")  
Printf("Error porcentual relativo")

FIN



# Pseudocódigo

! Declarar Float  $x_{i1}, x_i, x_{i2}, F_{i1}, F_i, F_{i2}, F_{ad}, F_{at}, F_{cen}, error\_ad, error\_at, error\_cen, error\_real$

$$x_{i1} = 0 \quad F_{i1} = 1.2$$

$$x_i = 0.5 \quad F_i = 0.925$$

$$x_{i2} = 1 \quad F_{i2} = 0.2$$

$$error\_real = -0.9125$$

// Derivada hacia adelante

$$F_{ad} = (F_{i2} - F_i) / (x_{i2} - x_i)$$

$$error\_ad = \frac{error\_real - F_{ad}}{error\_real} \cdot 100$$

// Derivada hacia atrás

$$F_{at} = (F_i - F_{i1}) / (x_i - x_{i1})$$

$$error\_at = \frac{error\_real - F_{at}}{error\_real} \cdot 100$$

// Derivada centrada

$$F_{cen} = (F_{i2} - F_{i1}) / (x_{i2} - x_{i1})$$

$$error\_cen = \frac{error\_real - F_{cen}}{error\_real} \cdot 100$$

printf("Valores de las derivadas")

printf("Error porcentual relativo")