

1

c=3

$$f(3.1875) = -0.0154$$

i=4

$$X_1 = \frac{3.125 + 3.25}{2} = 3.1875$$

$$f(3.1875) = -0.0146$$

$$\begin{array}{r} X_1 = 3.125 + 3.25 \\ \hline C_2 = 3.1875 \end{array}$$

$$f(3.125) = 0.0660$$

$$x_1 = \frac{3+3.25}{2} = 3.125$$

$$C=2 \\ C^3, 3, 125 \\ (3, 3, 125) \checkmark$$

$$x_2 = \frac{3+3.25}{2} = 3.125 \\ f(3.125) = -0.108$$

$$C=2 \\ C^3, 3, 25 \\ (3, 25) \checkmark$$

$$x_3 = \frac{3+3.25}{2} = 3.125 \\ f(3.125) = -0.035$$

$$C=2 \\ C^3, 3, 325 \\ (3, 325) \checkmark$$

$$x_4 = \frac{3+3.25}{2} = 3.125 \\ f(3.125) = -0.018$$

$$C=2 \\ C^3, 3, 35 \\ (3, 35) \checkmark$$

$$x_5 = \frac{3+3.25}{2} = 3.125 \\ f(3.125) = -0.008$$

$$C=2 \\ C^3, 3, 375 \\ (3, 375) \checkmark$$

$$x_6 = \frac{3+3.25}{2} = 3.125$$

Converges to 3.125
as we can see the value is getting closer to 3.125

$$f(3.125) = 0.0660$$

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1 /

Resto

$$1) f(x) = \sin x \quad \text{en } \left[\frac{\pi}{2}, \frac{3\pi}{2} \right]$$

$$\begin{aligned} f\left(\frac{\pi}{2}\right) &= 1 \\ f\left(\frac{3\pi}{2}\right) &= -1 \end{aligned}$$

$$\begin{aligned} i &= 0 & + & \text{Puedo que } f(x) \text{ en } i=0 \\ x_i &= \pi & C\pi, \frac{\pi}{2} & \text{es } =0 \text{ es significa que} \\ f(x_i) &= 0 & C\pi, \frac{3\pi}{2} & \text{ya se llevan la var de la función} \\ & & & \rightarrow \text{ya no se necesita iterar} \end{aligned}$$

$$2) f(x) = \sin x \quad \forall x \in [0, \pi]$$

$$\begin{aligned} F(1) &= 0.841 & \text{El intervalo nos lleva, ni hay} \\ F(2) &= 0.909 & \text{raíces dentro} \end{aligned}$$

3)

$$\begin{aligned} F(1.5) &= 0.898 \\ F(1.5) &= -0.350 \Rightarrow \end{aligned}$$

i=0

$$\begin{aligned} x_0 &= 3.5 - \frac{(1 - 0.35)(-1)}{0.898 + 0.350} = 3.13 \\ &+ \quad C3.5, 3.13 \\ &- \quad C3.13, 3.5 \end{aligned}$$

f(x_0) = 0.01