x^4+3x^3+10

Iteration-1

let $x=2$ and $\eta=0.01$

$$4x^3+6x = 4(2)^3+6(2)$$
$$= 32+12$$
$$= 44$$

As gradient is not near to zero, calculating step length

$$\Delta x = -0.01 * 44$$
$$= -0.44$$

Update $x = 2-0.44 = 1.56$

Iteration-2

$$= 4(1.5)^3+6(1.5)$$
$$= 13.5+9 = 22.5$$

$$\Delta x = -0.01 * 22.5 = -0.225$$

Update $x = 1.5-0.225 = 1.275$