Assignment: Gradient Descent Example

Third Iteration K = 3

Gradient

= 2.5 – 0.5 (2.5 – 4)

= 3.25

Cost

= ½(3.25 -4)^2

= 0.28125

Fourth Iteration k= 4

Gradient

= 3.25 – 0.5 (3.25 – 4)

= 3.625

Cost

= ½(3.625-4)^2

=0.070313

Fifth Iteration K = 5

Gradient

= 3.625 – 0.5(3.625-4)

=3.8125

Cost

= ½(3.8125-4)^2

=0.017578

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| k | 1 | 2 | 3 | 4 | 5 |
| C(wk) | 4.5 | 1.125 | 0.28125 | 0.070313 | 0.017578 |
| wk | 1 | 2.5 | 3.25 | 3.625 | 3.8125 |