# Assignment: Gradient Descent Example

In this assignment, you will implement the gradient descent algorithm to optimize a simple cost function, by filling out a table of values. You will start with a random value for the parameter. You will determine the value of the cost function, and you will update the parameters using gradient descent.

## Cost function

## Derivative

### Gradient Decent Formula

### Initialize Parameter

Fill out the table here is the first two elements.

# First iteration k=1

## Gradient Decent Formula

## Cost

=4.5

# Second iteration k=2

## Gradient Decent Formula

## Cost

=1.125

Fill in the rest of the table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| k | 1 | 2 | 3 | 4 | 5 |
|  | 4.5 | 1.125 | 0.28125 | 0.0703125 | 0.017578125 |
|  | 1.0 | 2.5 | 3.25 | 3.625 | 3.8125 |