

''' Gradient Descent Algorithm

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'''

```
def GradientDescent(start,learn_rate,grad,toler=0.000001):
```

```
    ans=[start]
```

```
    x=start
```

```
    diff=1
```

```
    while(diff>toler):
```

```
        prev=x
```

```
        x=x-learn_rate*grad(x)
```

```
        ans.append(x)
```

```
        diff=abs(prev-x)
```

```
    result=ans[len(ans)-1]
```

```
    return ans,len(ans),result,learn_rate
```

```
def diff_eqtn(x):
```

```
    return 2*(x+3)
```

```
process,steps,rslt,lr=GradientDescent(2,0.01,diff_eqtn)
```

```
print('Steps In Gradient Descent : ',process)
```

```
print('Lerning Rate : ',lr)
```

```
print('Number Of Steps : ',steps)
```

```
print('Result : ',rslt)
```