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Test Cases for sigmoid() and predict()

Vicc Alexander Week 3 · 3 years ago · Edited by moderator

In previous versions of this course we were lucky enough to be provided with unit tests to test our functions for mistakes / errors before submitting them (Maybe Tom might want to bring some of his older ones back?).

For those of you who don't know, unit testing is essentially the practice of testing functions in your code to make sure they work as expected. You can determine if your functions are working properly by cross-referencing your answers with the answers below. This helps identify any failures in your algorithms / logic.

I've provided a few of my own below. Hope this helps some of you out!

Q

```
1 \gg sigmoid(-5)
 2 \text{ ans} = 0.0066929
 3
 4 >> sigmoid(0)
 5 ans = 0.50000
 6
 7
   >> sigmoid(5)
8 \text{ ans} = 0.99331
9
10 >> sigmoid([4 5 6])
11 ans =
12
13
      0.98201
               0.99331
                        0.99753
14
15 >> sigmoid([-1;0;1])
16 ans =
17
      0.26894
18
19
      0.50000
20
      0.73106
21
22 \gg V = reshape(-1:.1:.9, 4, 5);
23 >> sigmoid(V)
24 ans =
25
26
      0.26894 0.35434 0.45017 0.54983
                                          0.64566
27
      0.28905 0.37754 0.47502 0.57444
                                          0.66819
28
      29
      30
31 \gg X = [1 \ 1 \ ; \ 1 \ 2.5 \ ; \ 1 \ 3 \ ; \ 1 \ 4];
32 \gg \text{theta} = [-3.5; 1.3];
33
34 % test case for predict()
35
   >> predict(theta, X)
36
   ans =
37
38
      0
39
      0
40
      1
41
      1
```

Note: If you do not get these result, check that you are including the sigmoid() function, and that the decision threshold is ≥ 0.5