✖ 通过所需分数：80% 或更高

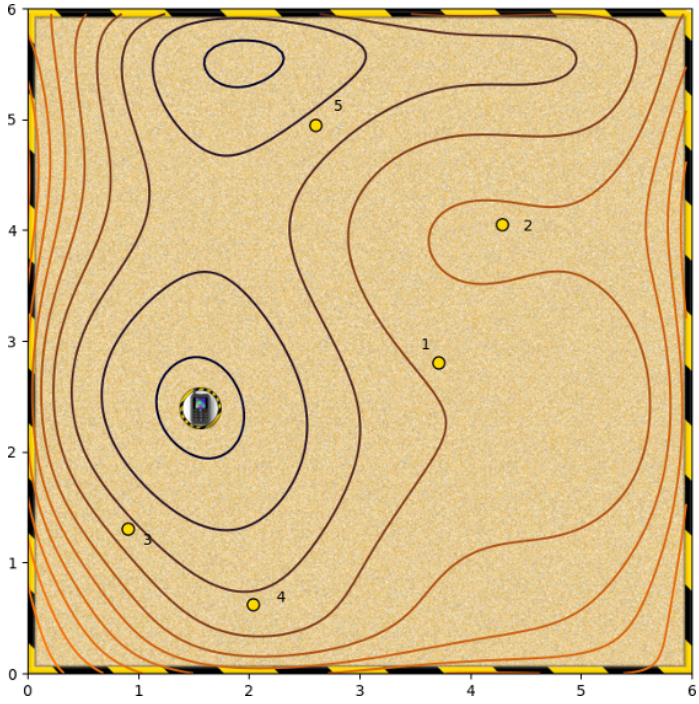
每隔 8 小时，您最多可以重新进行 3 次 此测验。

返回到第 5 周

重新测试

✔ 1 / 1 分

1。 Given the following contour plot,



Which starting points (from 1 to 5) are likely to converge to the global minimum (shown by the mobile phone) when using a steepest descent algorithm?

☐ Starting point 1

正确

In this case, the algorithm descends smoothly down the slope.

- [ ] Starting point 2

未选择的是正确的

- [ ] Starting point 3

正确
In this case, the algorithm descends smoothly down the slope.

- [ ] Starting point 4

正确
In this case, the algorithm descends smoothly down the slope.

- [ ] Starting point 5

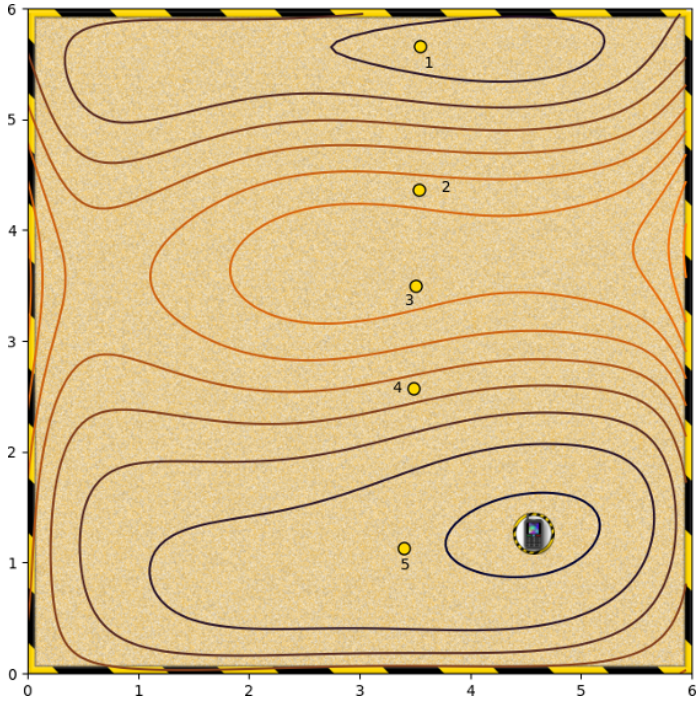
未选择的是正确的

- [ ] None of the above

未选择的是正确的

✔ 2。 Again, which starting points converge to the global minimum?

1 / 1 分



- [ ] Starting point 1

未选择的是正确的

- [ ] Starting point 2

未选择的是正确的

- [ ] Starting point 3

正确
This should converge to the global minimum.

- [ ] Starting point 4

正确
This should converge to the global minimum.

Optimisation scenarios

4/6 分 (66%)

测验, 6 个问题

Starting point 5

正确

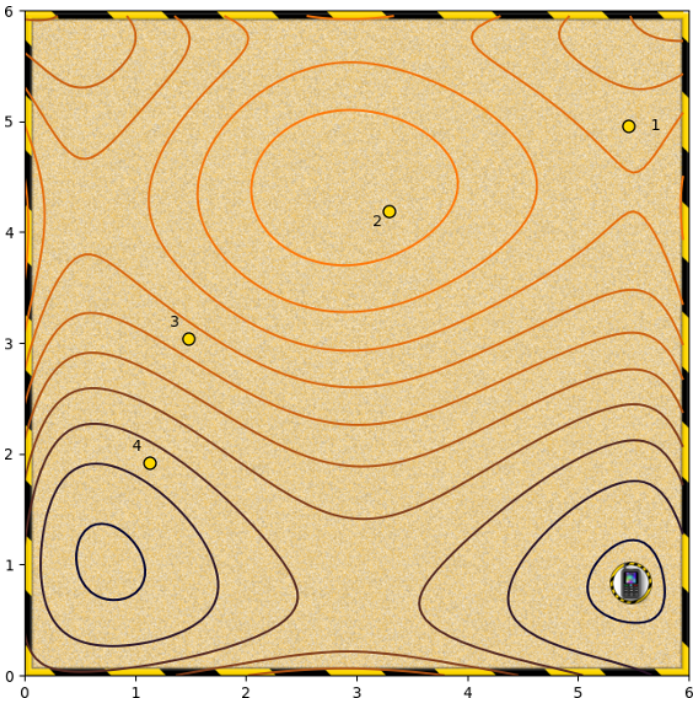
This should converge to the global minimum.

None of the above

未选择的是正确的

✖ 3。 Which starting points converge to the global minimum?

0 / 1 分



Starting point 1

这个选项的答案不正确

This starting point is in a different basin, it will seek to move upwards.

- [x] Starting point 2

正确

From here, the algorithm will descend the hill to the global minimum.

- [ ] Starting point 3

未选择的是正确的

- [ ] Starting point 4

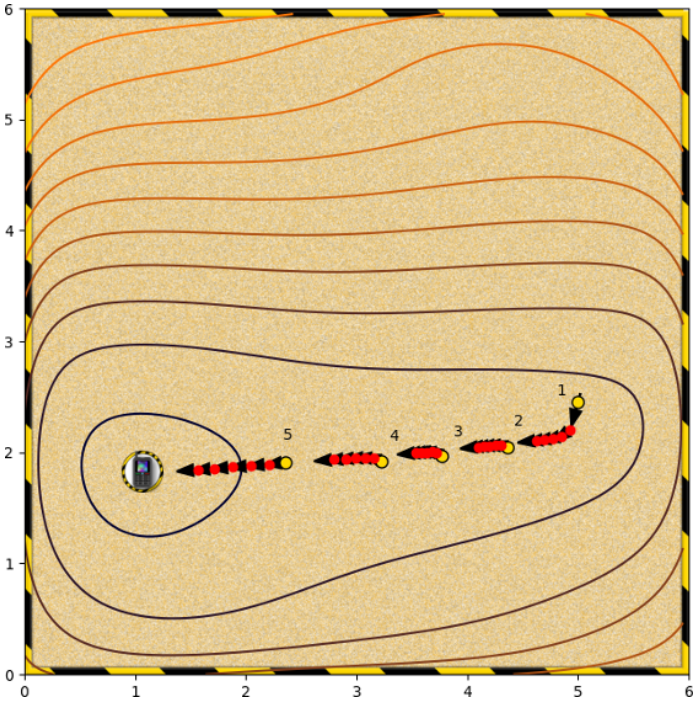
未选择的是正确的

- [ ] None of the above

未选择的是正确的

✔ 1 / 1 分

4。 What's happening in this gradient descent?



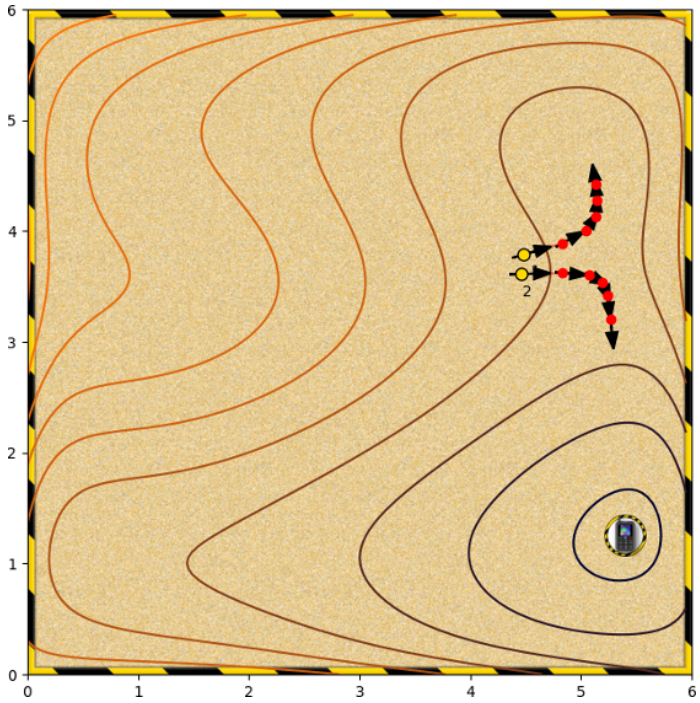
- None of the other options.
- The global minimum is in a wide and flat basin, so convergence is slow.

正确
This could be improved by increasing the aggression.

- The algorithm is getting stuck near local minima.
- The algorithm is getting stuck near saddle points.

✖ 0 / 1 分

5。 What is happening here?



- The algorithm is passing either side of a local maximum.

The algorithm is passing either side of a local minimum.

这个选项的答案不正确

If it was a local minimum, the algorithm would converge here.

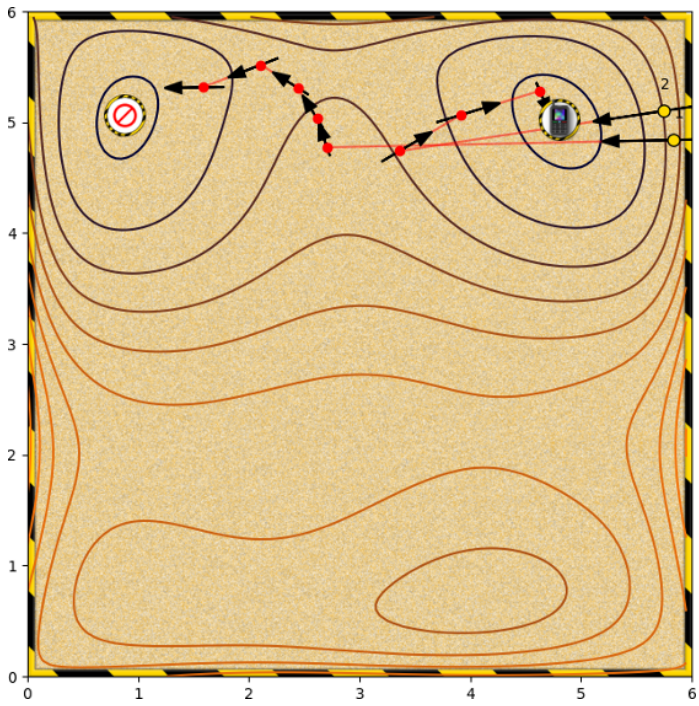
None of the other options.

The algorithm is passing either side of a saddle point.

There is noise in the system.

✔ 1 / 1 分

6。 What is happening here?



The marked points are saddle points.

The Jacobian at the starting point is very large.

正确

This is causing the algorithm to overshoot. In one case into a different basin.

- There is noise in the system
- None of the other options.