

Congratulations! You passed!

Grade received 100%

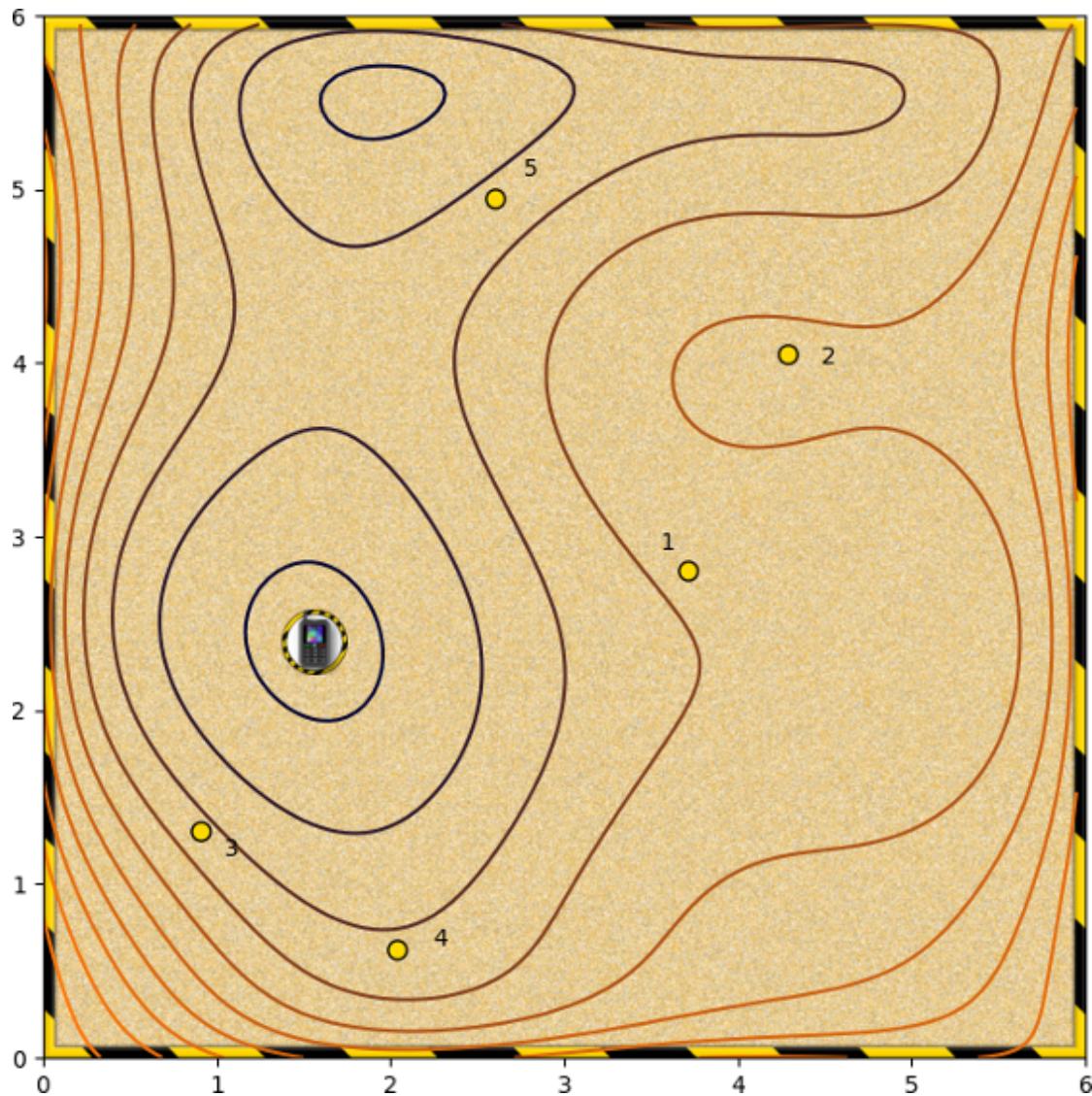
Latest Submission Grade 100%

To pass 80% or higher

Go to next
item

- Given the following contour plot,

1 / 1 point



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

 **Correct**

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

- Starting point 2

- Starting point 3

 **Correct**

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

- Starting point 4

 **Correct**

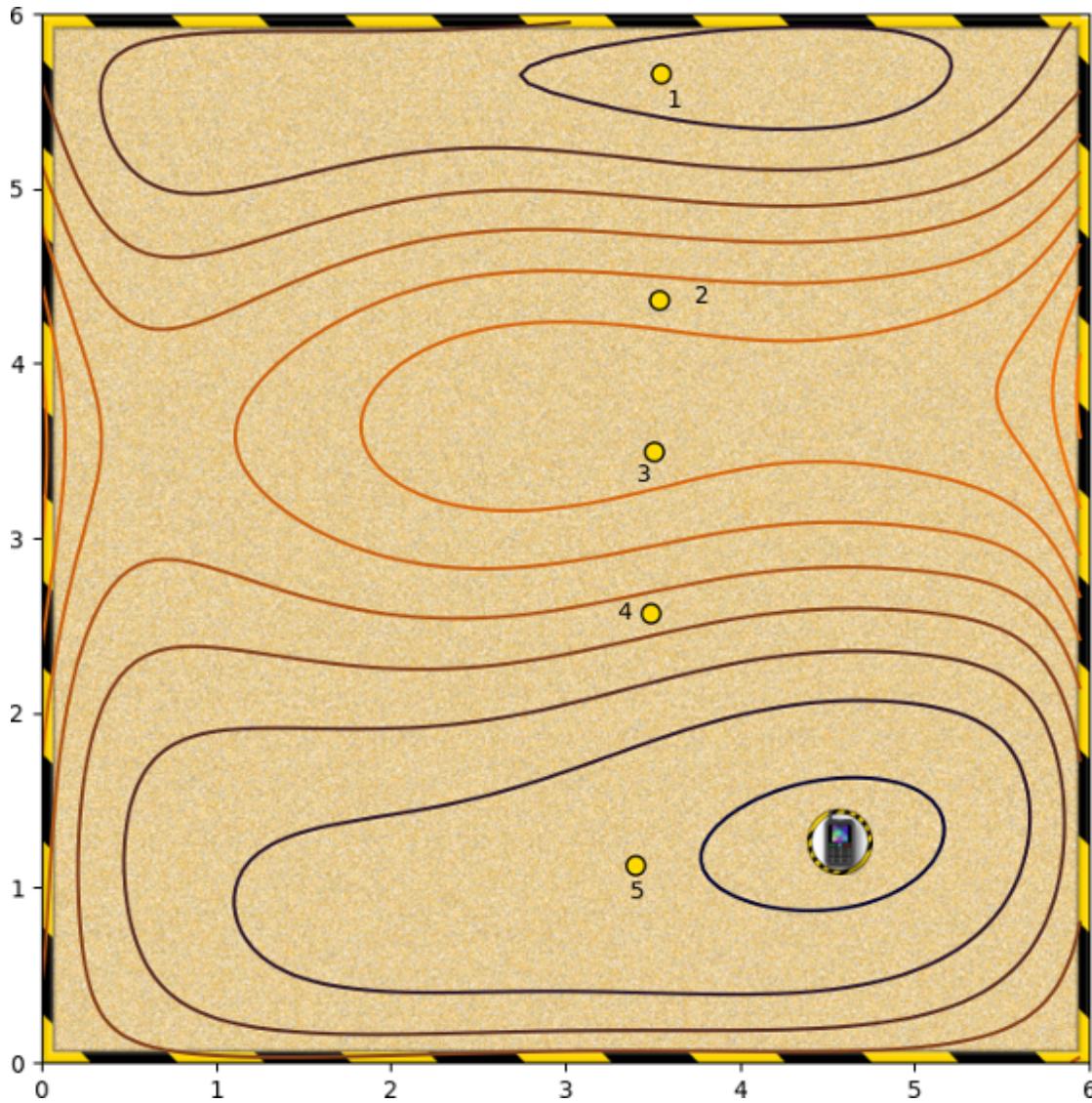
In this case, the algorithm descends smoothly down the slope.

- Starting point 5

- None of the above

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

1 / 1 point



Starting point 1

Starting point 2

Starting point 3

Correct

This should converge to the global minimum.

Starting point 4

Correct

This should converge to the global minimum.

Starting point 5

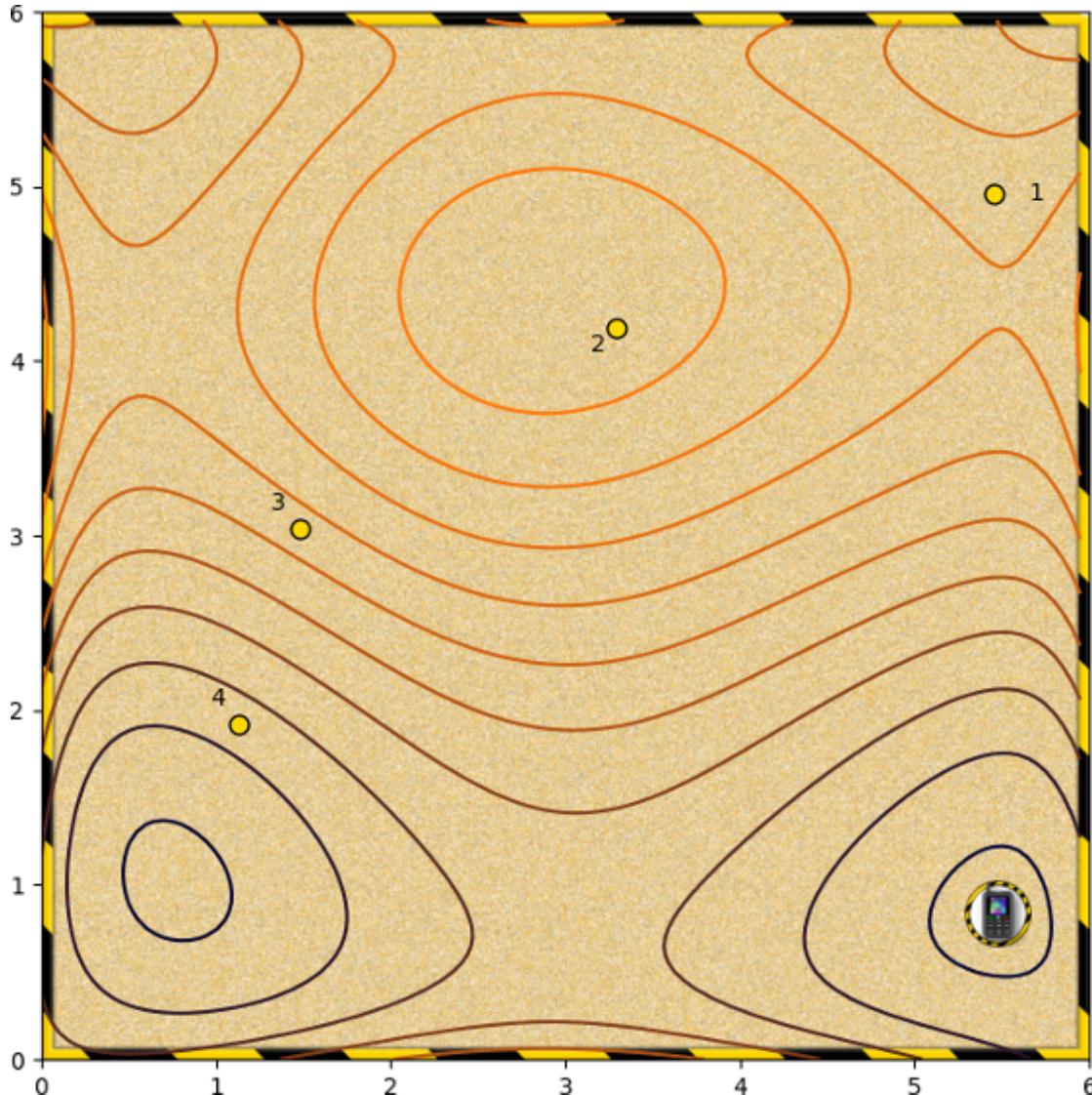
Correct

This should converge to the global minimum.

- None of the above

3. Which starting points converge to the global minimum?

1 / 1 point



- Starting point 1

- Starting point 2

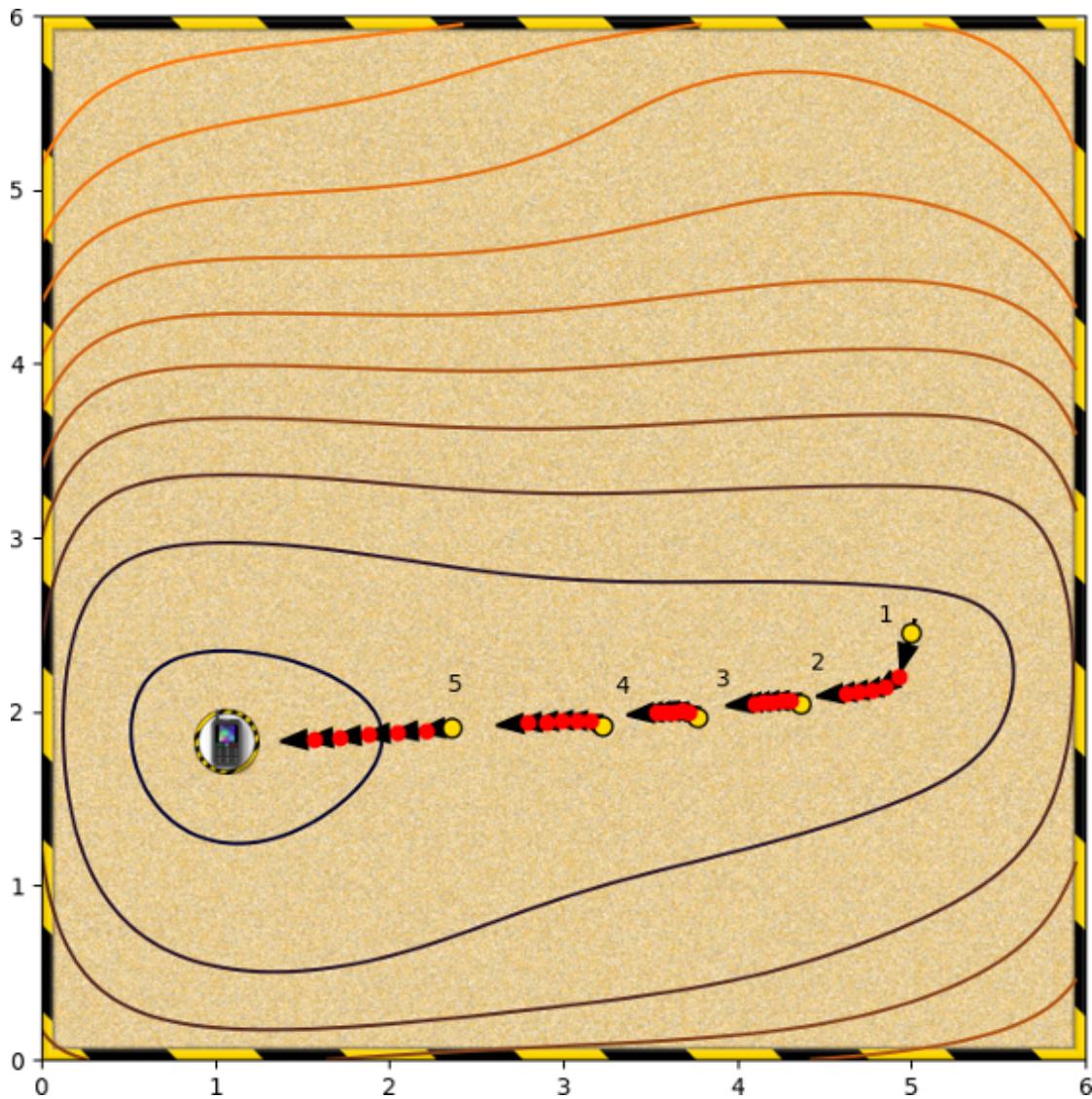
 Correct

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

- Starting point 3
- Starting point 4
- None of the above

4. What's happening in this gradient descent?

1 / 1 point



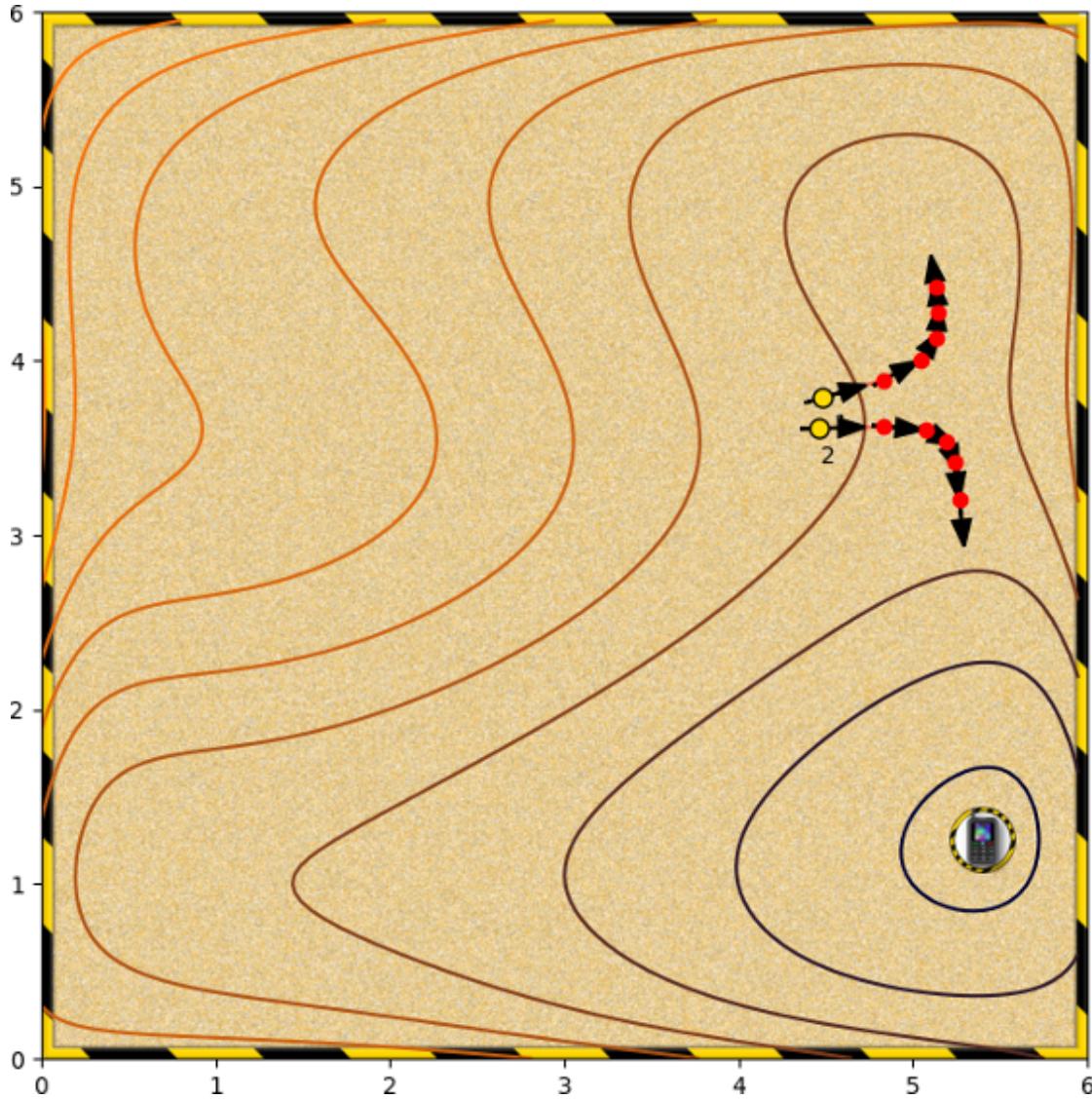
- The algorithm is getting stuck near local minima.
- The algorithm is getting stuck near saddle points.
- The global minimum is in a wide and flat basin, so convergence is slow.
- None of the other options.

Correct

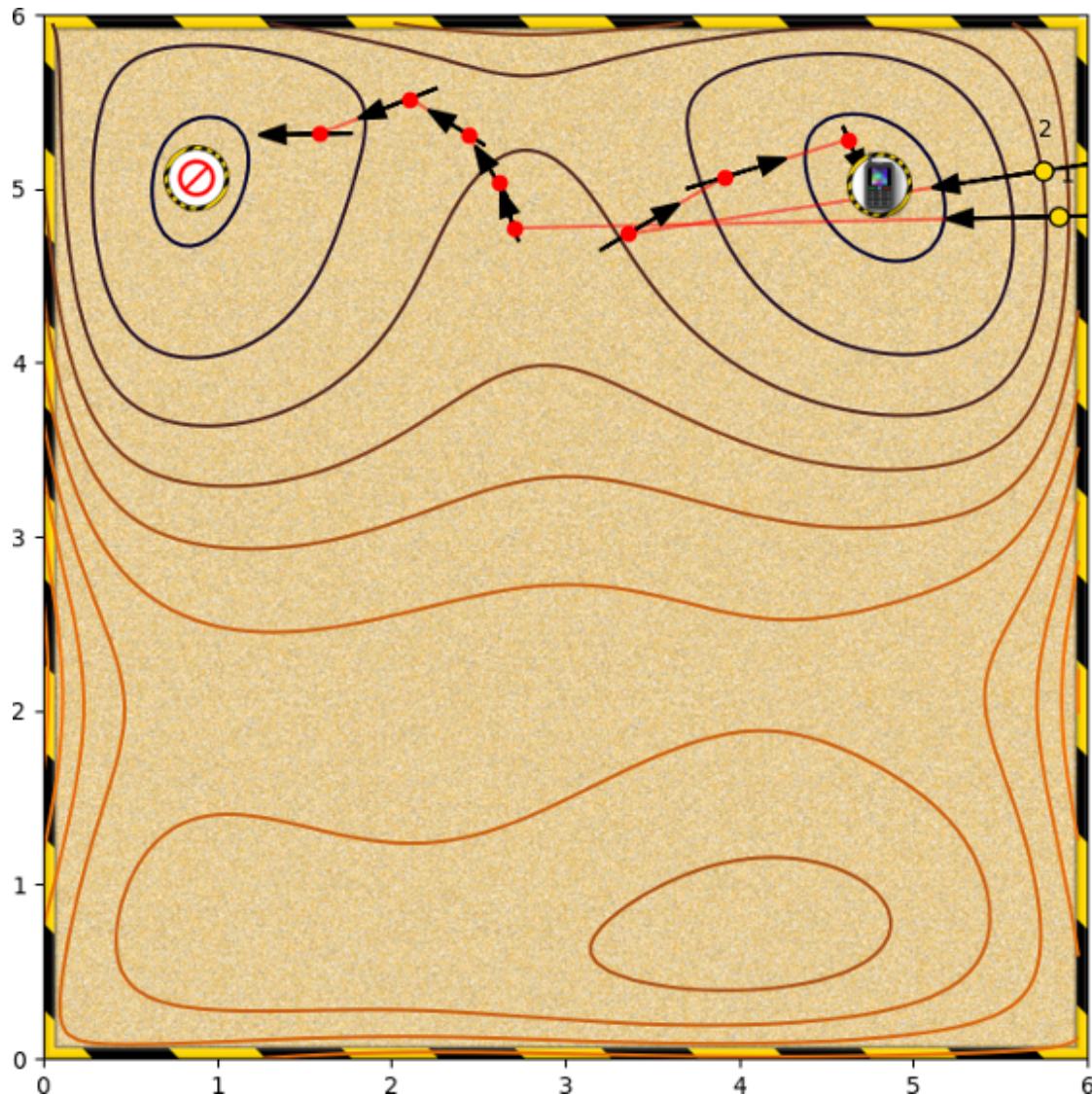
This could be improved by increasing the aggression.

5. What is happening here?

1 / 1 point



- The algorithm is passing either side of a local maximum.
- There is noise in the system.
- None of the other options.
- The algorithm is passing either side of a local minimum.
- The algorithm is passing either side of a saddle point.

 **Correct****6. What is happening here?****1 / 1 point**

- There is noise in the system
- The marked points are saddle points.
- The Jacobian at the starting point is very large.
- None of the other options.

 **Correct**

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

