DEEP LEARNING

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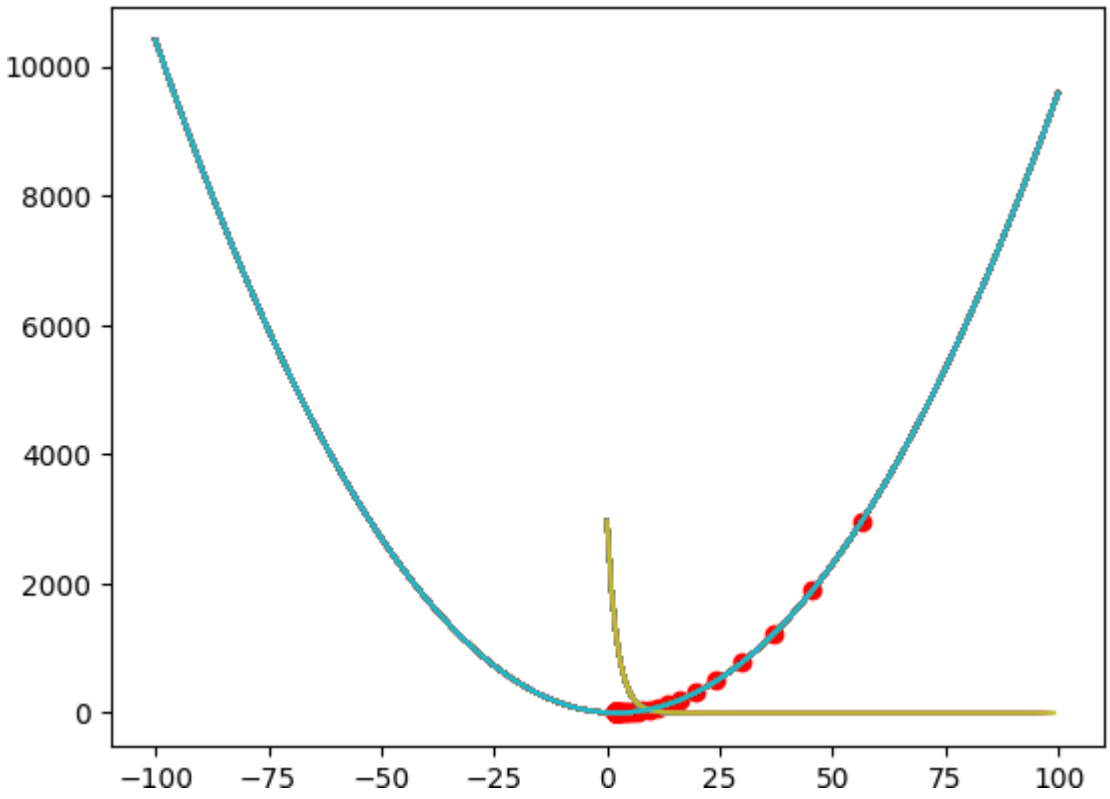
Report for Assignment 1

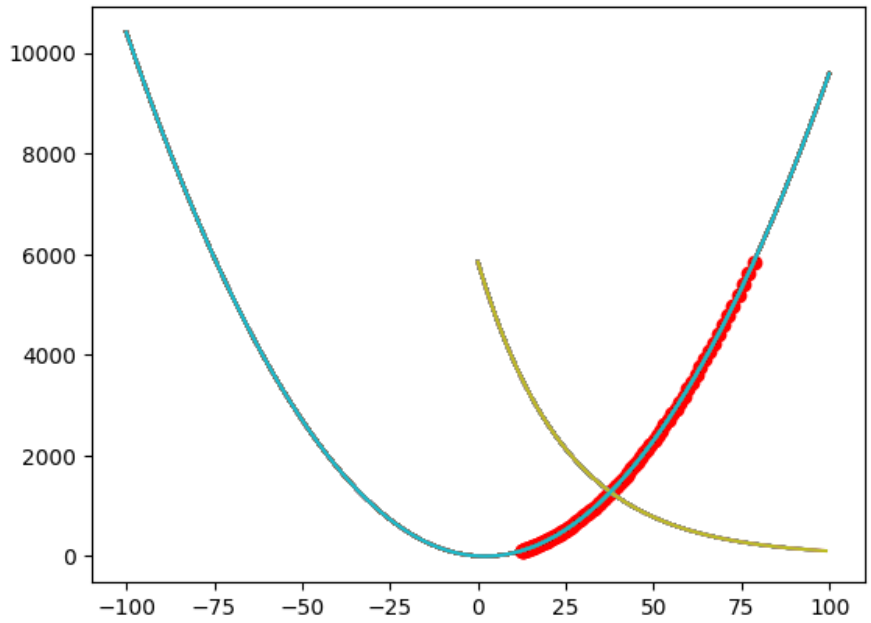
For the question 1 -:

For the case of the single variable

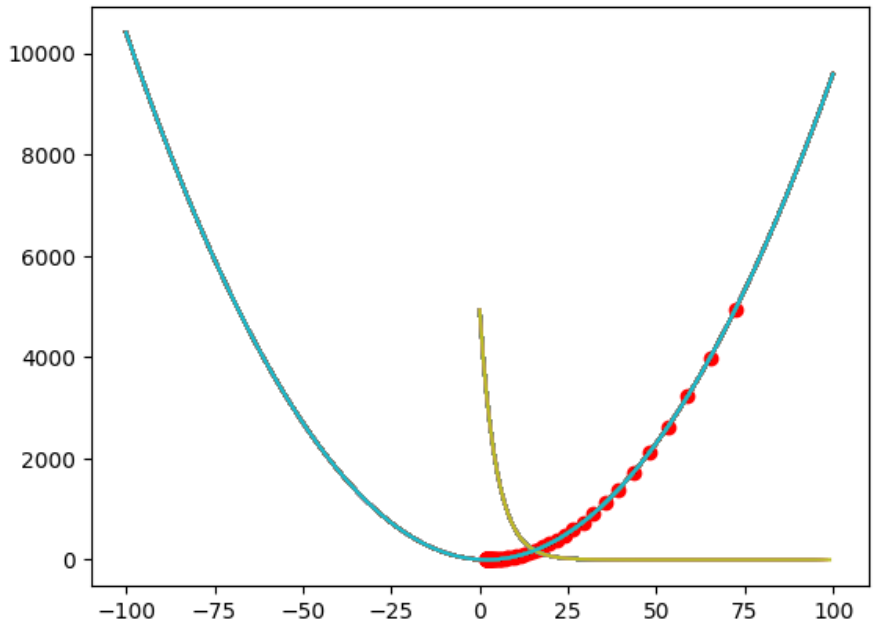
1. $(x-2)^2$



The yellow one is graph between the Function values and the number of iterations.
The blue graph is the graph of the actual function.
The value of learning rate is 0.1.
The number of iterations is 100.

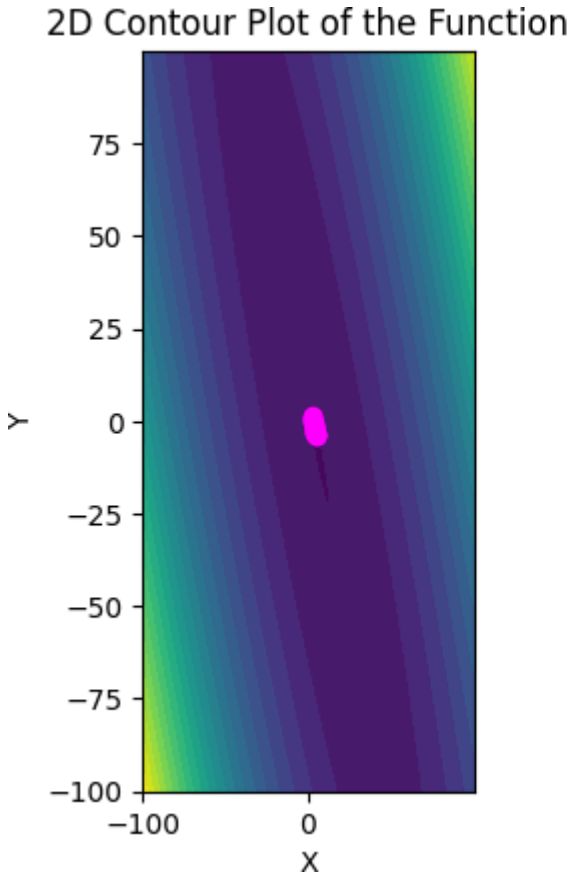


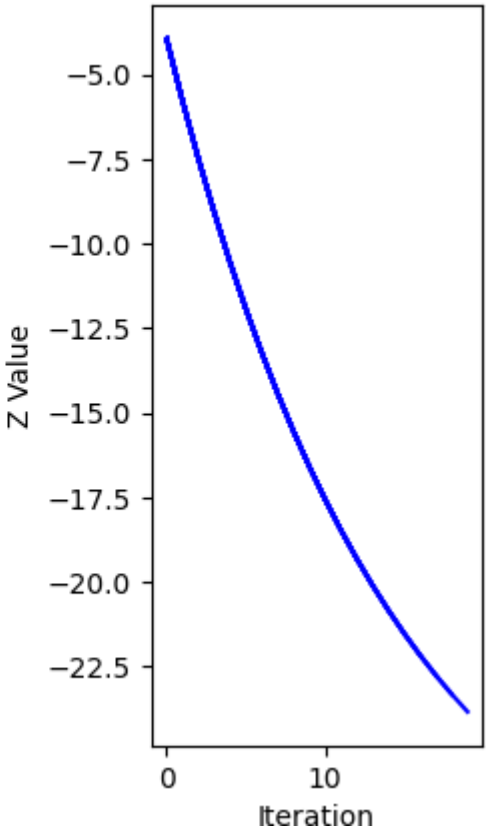
Here the learning rate is 0.01.



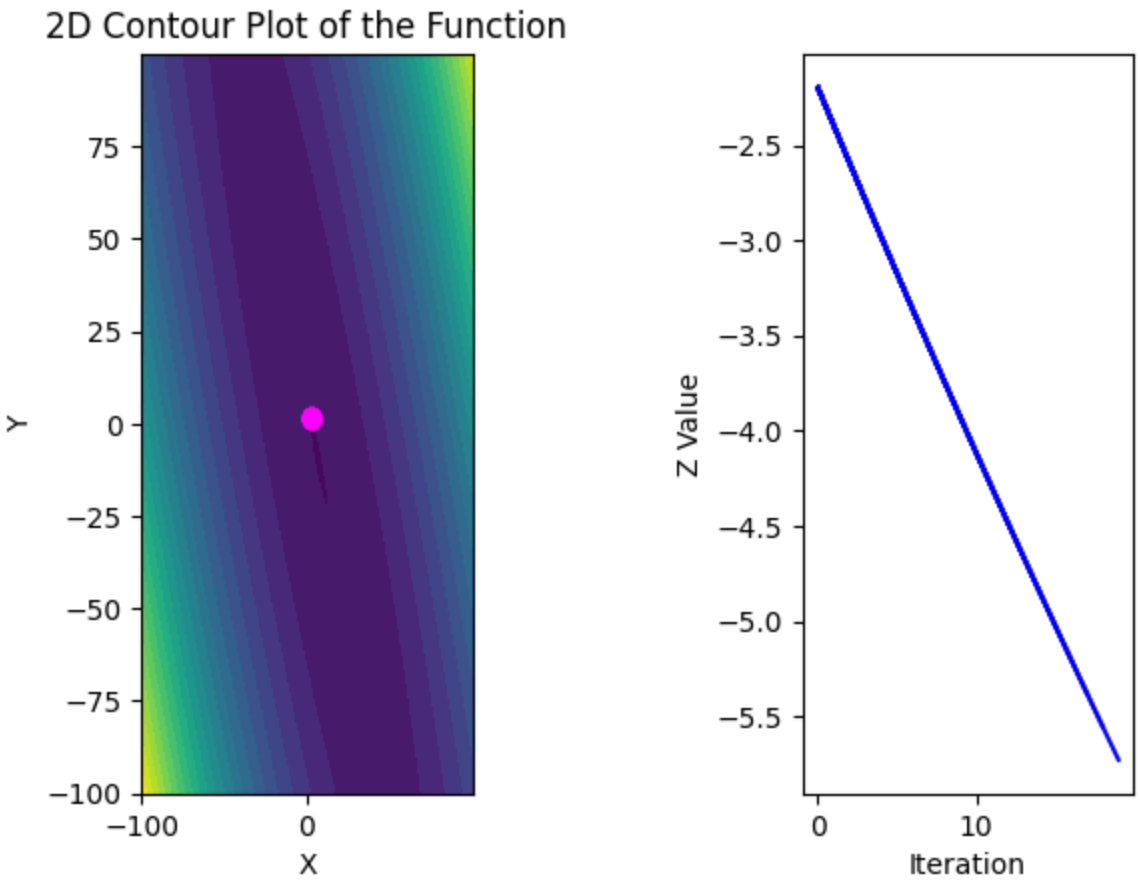
Here the learning rate is 0.05.
For the case of 2 variables

1. 5*(x)**2-30*x+y**2-8*y+4*x*y+34

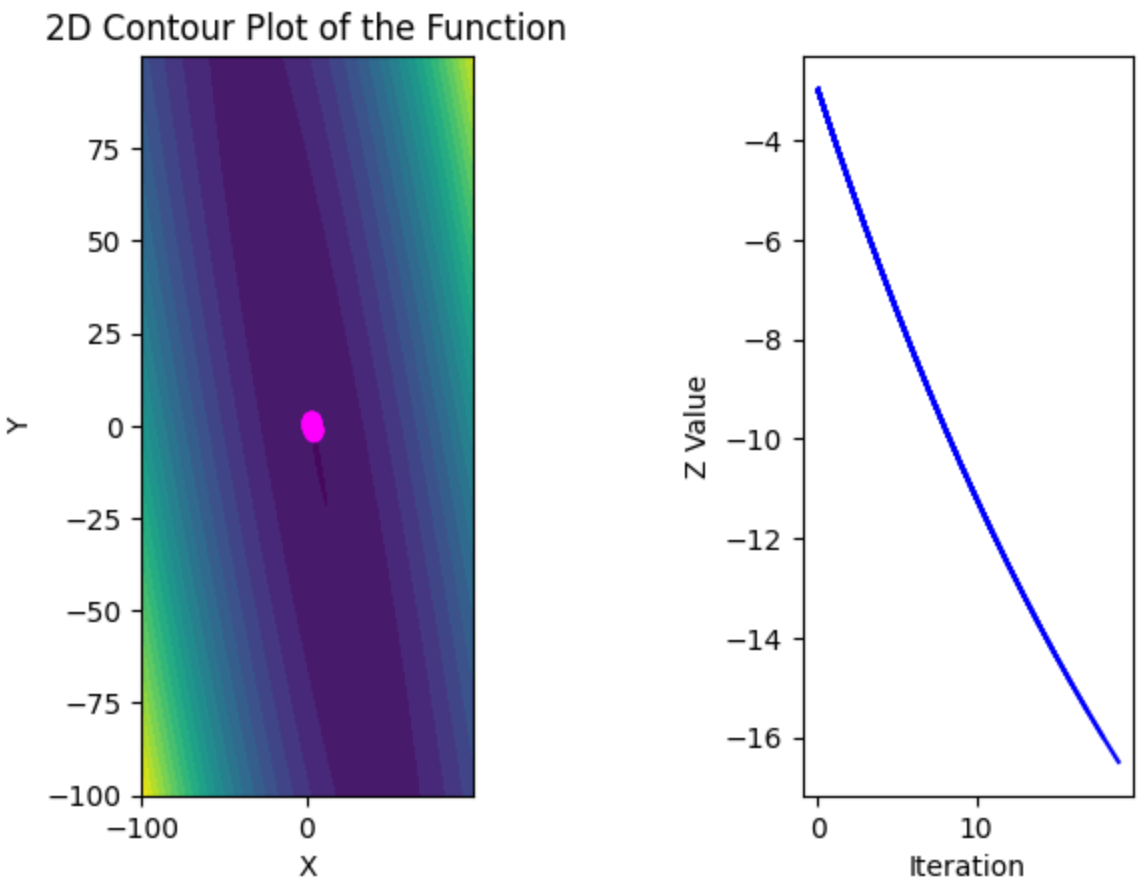




The value of the learning rate is 0.1.
The number of iterations is 20.



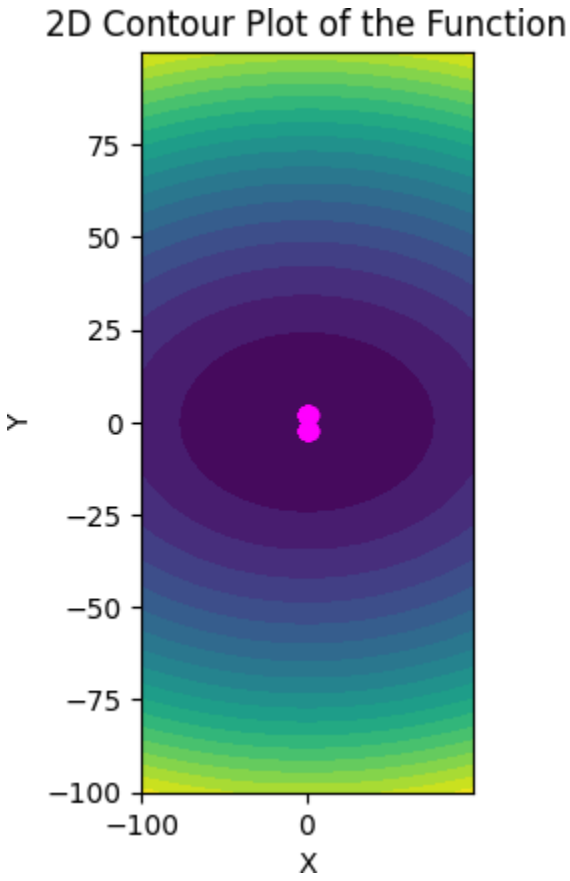
Now the learning rate is 0.01.

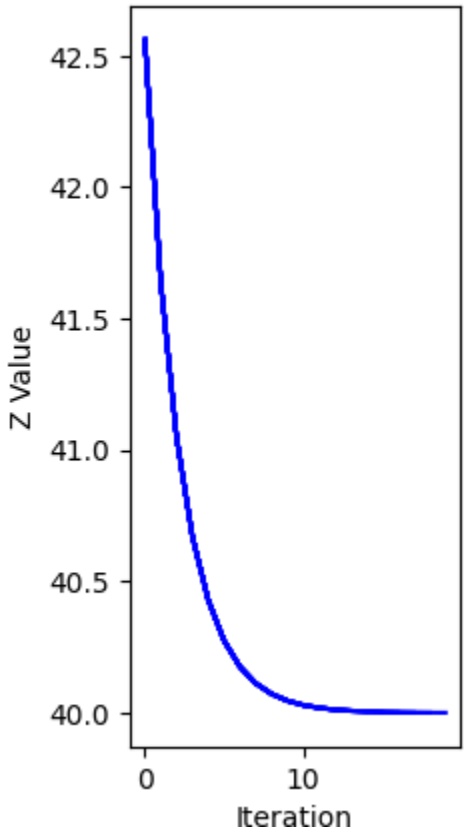


Here the learning rate is 0.05.

For the question 2 -:

1. When a is 10.

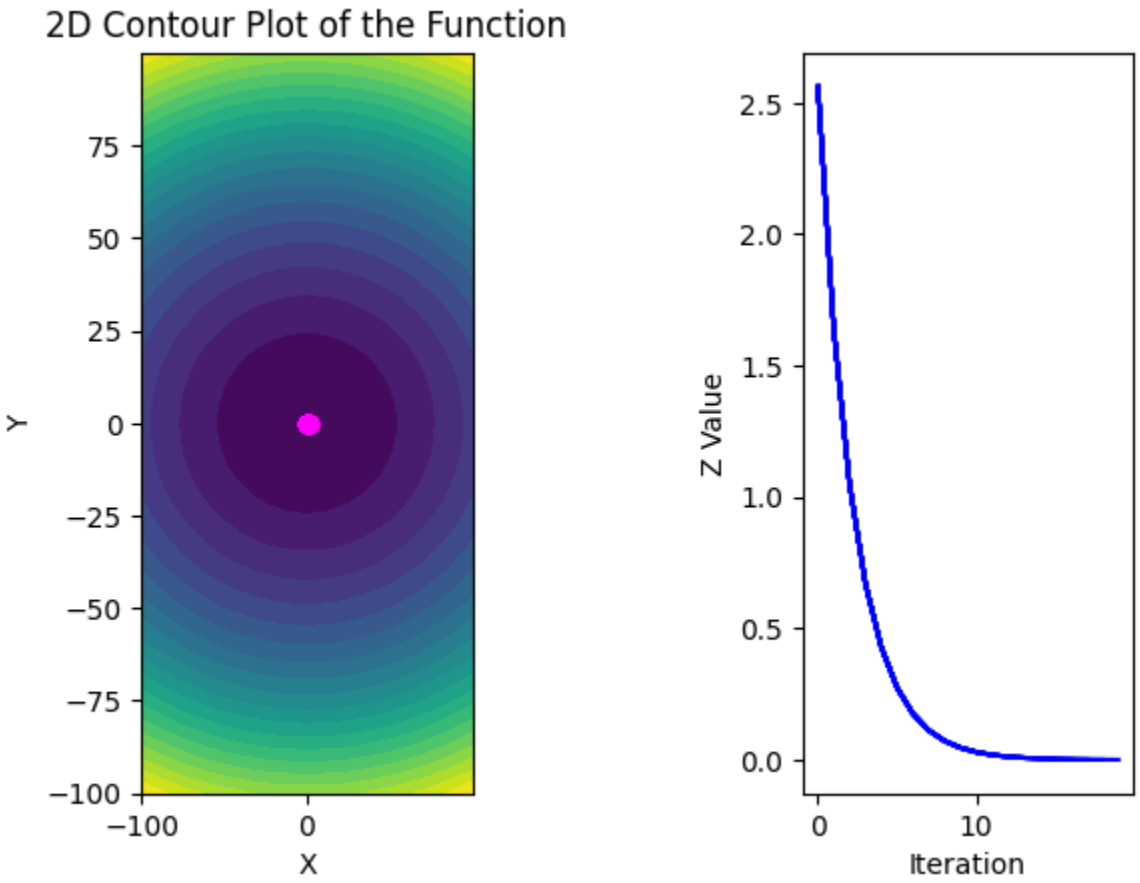




The number of iterations are 20.

The learning rate is 0.1.

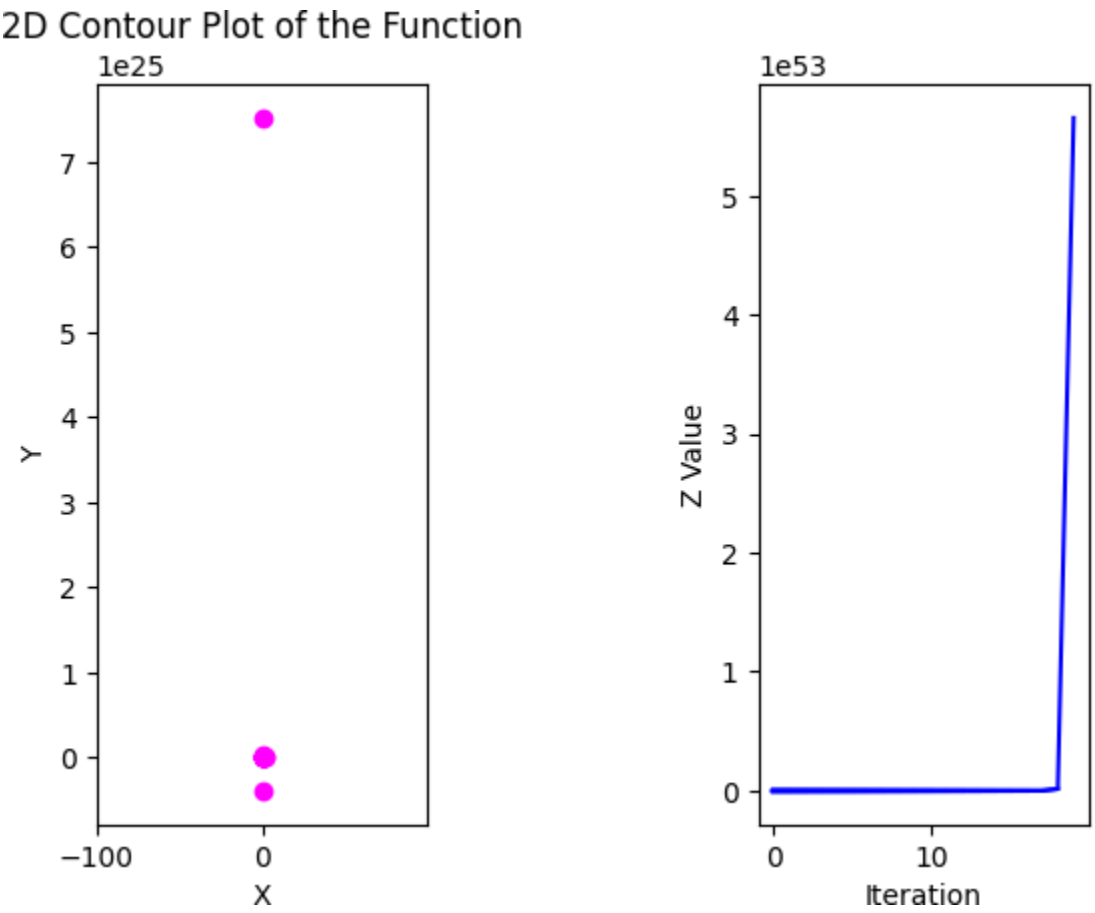
2. When a is 5



The number of iterations are 20.

The learning rate is 0.1.

3. When a is 100



The learning rate is 0.1.

The number of iterations is 20.

Here we see that we are not able to get proper plot because of large value of a.