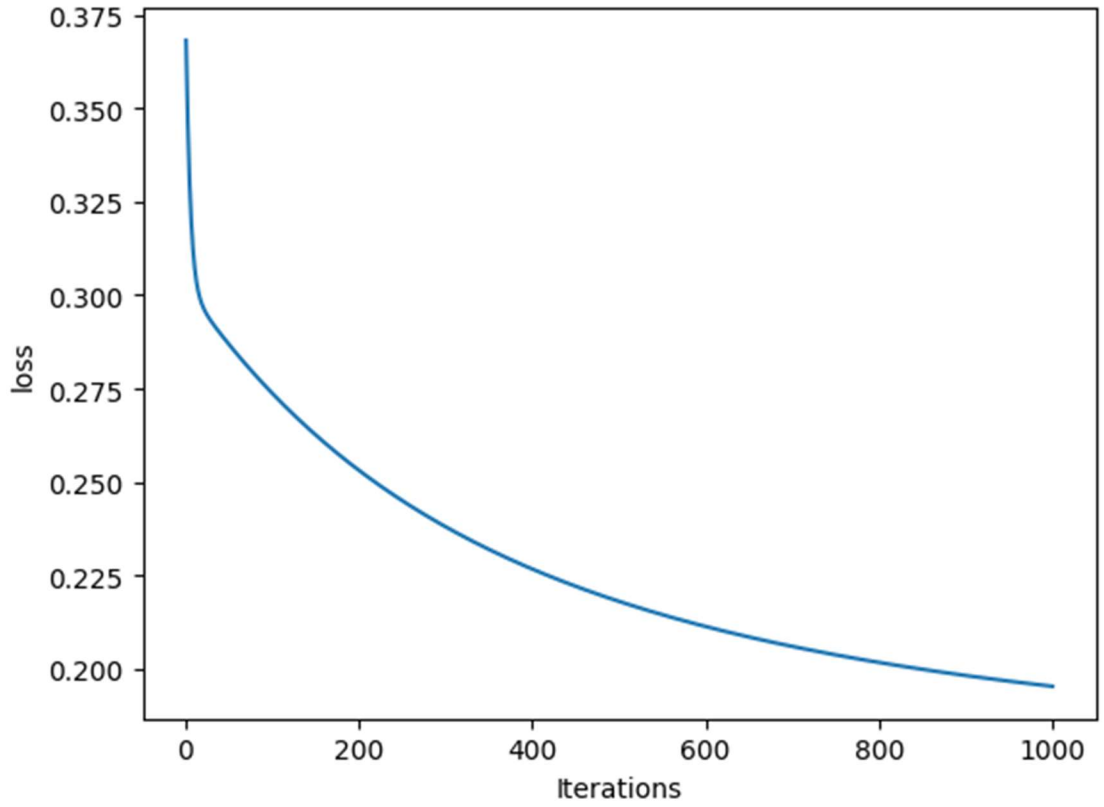
DIAMONDS – LOGISTIC REGRESSION

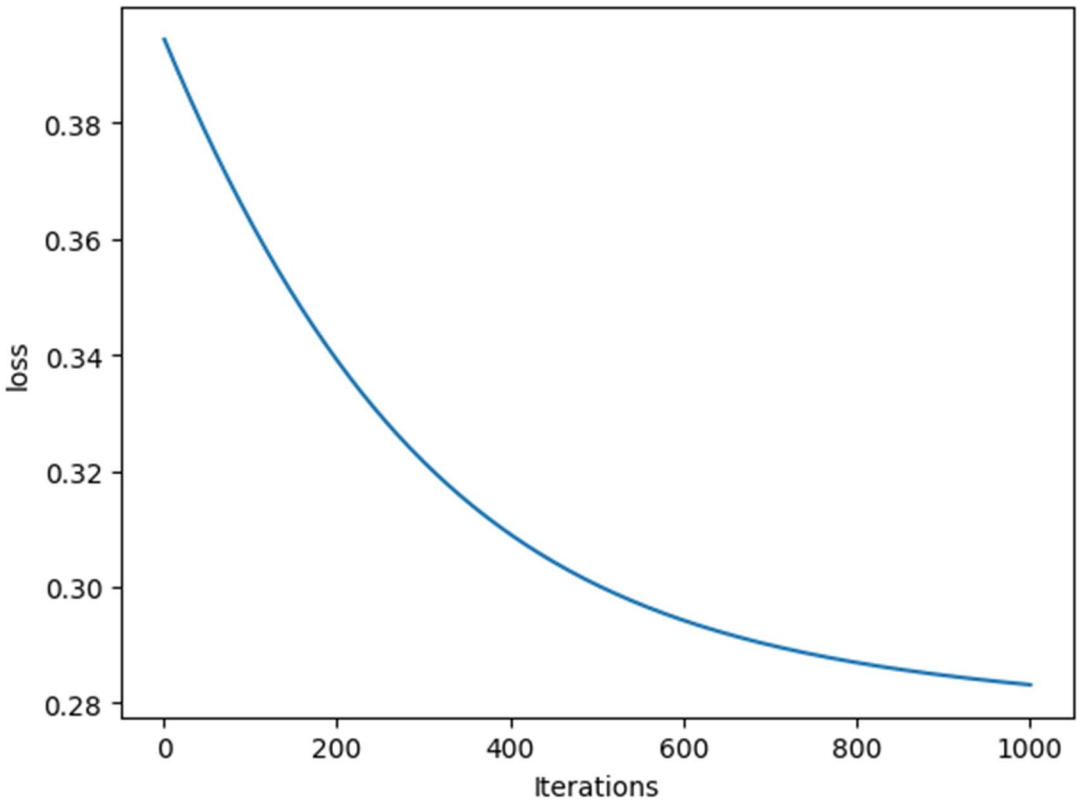
Best accuracy : 99.989%

LOSS GRAPH



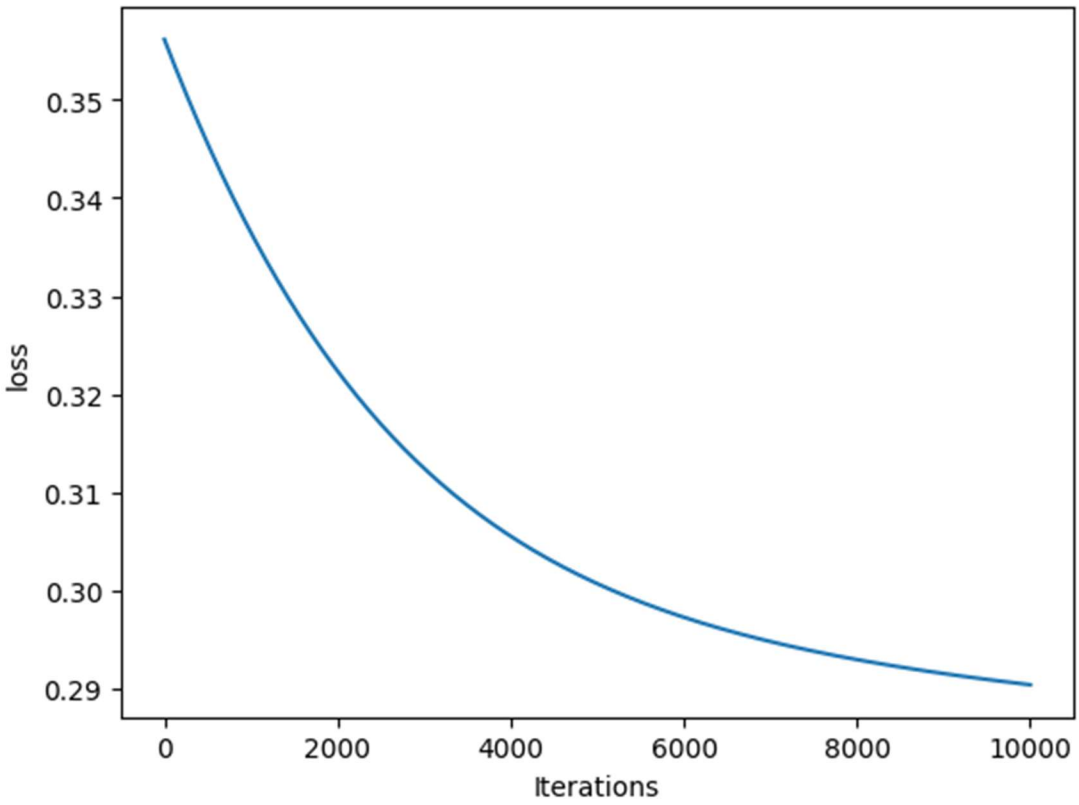
Iteration1:

- Correct predictions : 9755
- Incorrect predictions : 17
- weight [6.4588244   1.7983444   0.84481874 -7.46165911]
- Accuracy with lr = 0.5 and 1000 iterations : 99.82603356528857



Iteration2:

- Correct predictions : 9767
- Incorrect predictions : 5
- weight [0.61508263 0.37130888 -0.03248976 -0.81675287]
- Accuracy with lr = 0.01 and 1000 iterations : 99.94883340155546



From the losss graph it is analysed that when the iterations increases the loss decreases. So we could infer that the hyperparmeters were appropriate and its fitted properly

Iteration3:

- Correct predictions : 9771
- Incorrect predictions : 1
- weight [0.29283497 0.42432453 -0.42428902 -0.41182068]
- Accuracy with lr = 0.001 and 10000 iterations : 99.98976668031109

INFERENCE :

- While giving the appropriate hyperparameters the weights got adjusted.
- As the weights gets adjusted and tends to appropriate value, the accuracy is increased.
- If the learning rate / iterations is less then it will lead to underfitting
- If the learning rate / iterations is more then it will lead to overfitting
- As the accuracy increased as when increasing the iterations and decreasing the learning rate, the final hyperparameter is considered