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# 2025 USA-NA-AIO Round 1, Problem 3, Part 18

USAAIO 

Mar 2025

## Part 18 (5 points, coding task)

Do the following tasks in this problem.

1. Define two models:

- `model_GD = My_Log_Reg(solver='GD', lr=.01, num_iter=200)`
- `model_Newton = My_Log_Reg(solver='Newton', lr=.1, num_iter=200)`

2. For each model,

- Use the training dataset to train it.
- Print the trained coefficients `coef_`.
- Use the test dataset to compute the accuracy score. Print it.

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```
### WRITE YOUR SOLUTION HERE ###
model_GD = My_Log_Reg(solver='GD', lr=.001, num_iter=200)
model_GD.fit(X_train_scaled, y_train)
print(model_GD.coef_)
print(model_GD.score(X_test_scaled, y_test))
```

```
model_Newton = My_Log_Reg(solver='Newton', lr=.1, num_iter=200)
model_Newton.fit(X_train_scaled, y_train)
print(model_Newton.coef_)
```

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```
print(model_Newton.score(X_test_scaled, y_test))

""" END OF THIS PART """
```

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