

Date.....

Writing my own class...

class My_BatchGradientDescent:

```
def __init__(self, learning_rate, epochs):    # Constructor  
    self.intercept = None  
    self.coef = None  
    self.learning_rate = learning_rate  
    self.epochs = epochs
```

```
def fit(self, X_train, Y_train):  
    # Initializing to coef and intercept.
```

self.intercept = 0

self.coef = np.ones(X_train[1])

for a in range(self.epochs):

Updating the values of coef and intercept. → self.intercept

Y_Predicted = np.dot(X_train, self.coef) # Vectorization

intercept_det = -2 * np.mean(Y_train - Y_Predicted)

self.intercept = (self.intercept - (self.learning_rate * intercept_det))

coef_det = -2 * np.dot((Y_train, Y_Predicted), X_train) / X_train.shape[0]

self.coef = (self.coef - (self.learning_rate * coef_det))

```
def predict(self, X_test):
```

return np.dot(X_train, self.coef) + self.intercept

As per the formula [mx + b]