

Machine Learning Algorithms: From Math to Code

Assignment for Linear Regression

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1 Problem 3

For this problem, you should complete the missing code for Ch5_3a.m and Ch5_4.m, and submit them.

1.1 Ch5_3a.m

After you finish Ch5_3a.m, you should get the following output in command line,

```
>> Ch5_3a
rho=0.9783
ESS=734.7814 RSS=32.9836 TSS=767.7650 R2=0.9570
```

and figure like Figure 1.

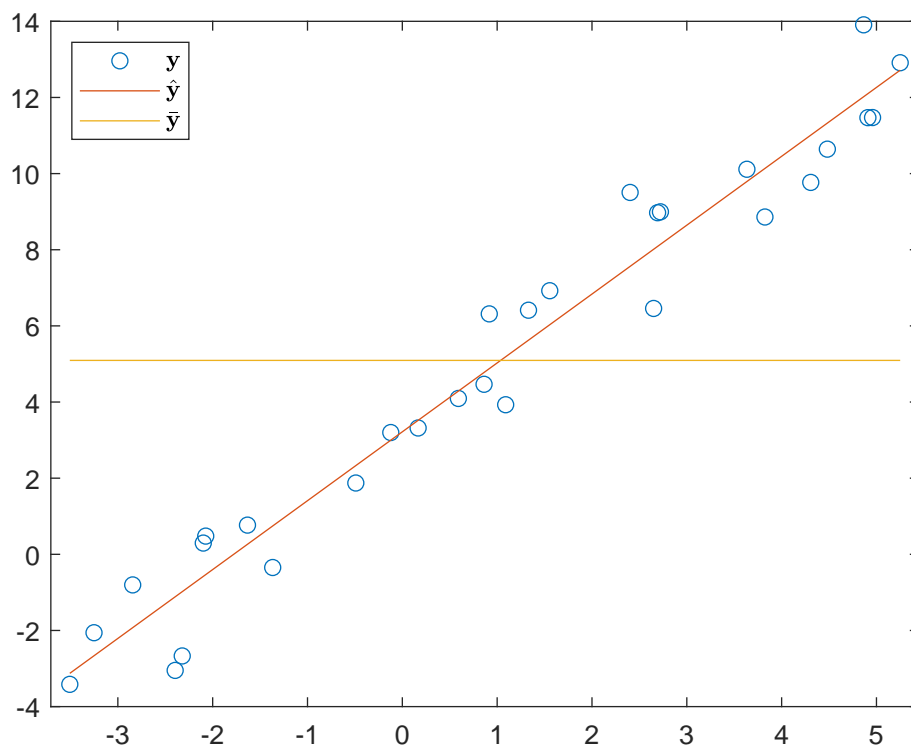


Figure 1: Linear regression for 2-D dataset.

1.2 Ch5_3b.m

After you finish Ch5_3b.m, you should get the following output in command line,

```
>> Ch5_3b
ESS=677.9964 RSS=124.4768 TSS=802.4732 R2=0.8449
```

and figure like Figure 2.

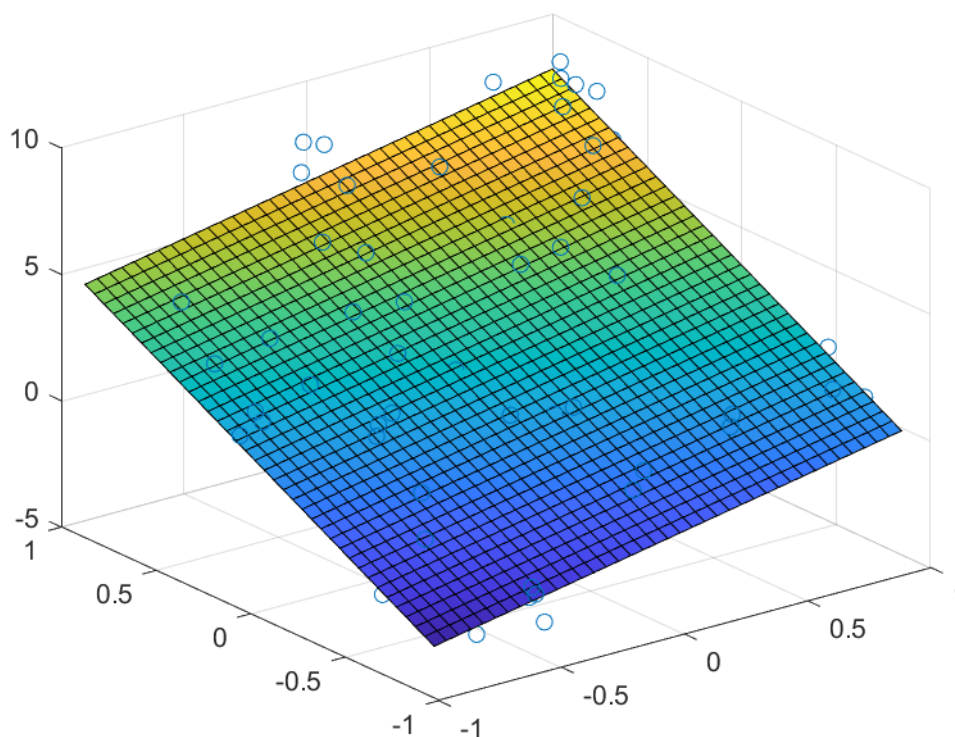


Figure 2: Linear regression for 3-D dataset.

2 Problem 4

For this problem, you should submit:

- (a) Matlab Code: Ch5_4.m;
- (b) A report (Word or PDF): Answer the questions asked by this problem, which should include results with different noise level, different λ , and so on.