

DAV IA2 QB

2m/2s

Chp 2: Regression model

1. Explain any two metrics that measures the overall accuracy of the model.  
→ RMSE,  $R^2$ , RSE
2. Explain a lower T-statistics indicate a predictor should be dropped.
3. What is the algorithm for basic k-fold cross validation.
- ~~4.~~ What is prediction interval and extrapolation.
- d. What is logistic regression?
- e. What are the two components of generalized linear model.
- f. Write the predicted value from logistic regression in terms of the log odds and the logistic response function.
- g. Explain how logistic Regression differs from linear Regression.

Not imp (Nahi aane wala).

1. What is AIC (Akaike information criteria).
2. What is step wise regression.
3. How to find the model that minimize AIC.
4. Explain penalized ~~regression~~ regression and state its method.

- 4. Kalman filtering

5. Multivariate time series analysis (VARIMA)  
variant



5mrks

3. write the reasons to choose and be cautious about ARIMA modeling

classmate

Date  
Page

## Q-2 Chp 3: Time series

1. Explain the application of time series in the following sectors:

- A. Finance, B. Economics, C. Biology, D. Engineering  
E. Retail, F. Manufacturing.

(If 5mrks write all, if two mrks any 2)

2mrks

2. What are the components of time series

2/5

3. Write the steps to perform box-jenkins methodology and state the objective of this method.

2/5

4. What are the three conditions for stationary time series.

5mrks

5. Which are the models used for forecasting

→ ARMA, ARIMA

2mrks

6. What is auto-correlation function (ACF)

→

6. Which ~~part~~ function provides insights into the co-variance of the variable

} same answer

2mrks

7. What is the result of the absolute value of  $\sqrt{ACF(h)}$  when it is closer to 1.

→ The more  $y_t$  can be as a predictor of  $y_{t+h}$

2mrks

8. Write the expression of an autoregressive model for a stationary time series.

→

9. What is white noise process

5mrks

1. Explain: Auto-correlation function and partial Auto-correlation function.

2. What are the other methods of T.S analysis

→

Write 1. Autoregressive ~~moving~~ average with exogenous (ARMAX)

2. Spectral analysis

3. Generalized auto-regression conditionally heteroscedastic