**Ujian Akhir Semester Tahun Akademik 2022/2023**

**Mata Kuliah :** Statistik Komputasi

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Repository : <https://github.com/rzqmhb/UAS_StatKom>

1. Data-data yang bisa digunakan untuk pemodelan regresi adalah :

* Data dependent : weekly\_sales (penjualan mingguan)
* Data independent :

1. Holiday\_Flag
2. Temperature
3. Fuel\_Price
4. CPI
5. Unemployment

Store 4 :

Weekly Sale:

count 1.430000e+02

mean 2.094713e+06

std 2.662014e+05

min 1.762539e+06

25% 1.929611e+06

50% 2.073951e+06

75% 2.175039e+06

max 3.676389e+06

Name: Weekly\_Sales, dtype: float64

Varians : 70863207880.99112

Holiday Flag:

count 143.000000

mean 0.069930

std 0.255926

min 0.000000

25% 0.000000

50% 0.000000

75% 0.000000

max 1.000000

Name: Holiday\_Flag, dtype: float64

Varians : 0.06549788239929084

Temperature:

count 143.000000

mean 62.253357

std 16.180023

min 28.840000

25% 48.470000

50% 64.220000

75% 77.440000

max 86.090000

Name: Temperature, dtype: float64

Varians : 261.7931393578253

Fuel Price:

count 143.000000

mean 3.216972

std 0.416967

min 2.540000

25% 2.764500

50% 3.290000

75% 3.586500

max 3.881000

Name: Fuel\_Price, dtype: float64

Varians : 0.1738611823106471

Customer Price Index:

count 9.000000

mean 129.290111

std 2.077152

min 126.064000

25% 128.130000

50% 130.244000

75% 131.043000

max 131.136000

Name: CPI, dtype: float64

Varians : 4.314558361111115

Unemployment:

count 143.000000

mean 5.964692

std 1.421267

min 3.879000

25% 4.607000

50% 5.946000

75% 7.127000

max 8.623000

Name: Unemployment, dtype: float64

Varians : 2.0200009046587217

Fuel Price:

Q1: 2.7645

Q2: 3.29

Q3: 3.5865

IQR: 0.8220000000000001

Customer Price Index:

Q1: 128.13

Q2: 130.244

Q3: 131.043

IQR: 2.913000000000011

Unemployment:

Q1: 4.607

Q2: 5.946

Q3: 7.127

IQR: 2.5199999999999996

Non-Holiday Week:

Variance: 64307184400.449524

Holiday Week:

Variance: 148586249704.7428

Mean untuk Weekly Sales pada toko menunjukkan hasil berbeda.

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CPI yang lebih tinggi di setiap toko:

Store ID: 1

CPI: 223.4442513

Store ID: 2

CPI: 223.0783366

Store ID: 3

CPI: 226.9873637

Store ID: 4

CPI: 131.1930968

Store ID: 5

CPI: 224.0378139

Store ID: 6

CPI: 225.0686254

Store ID: 7

CPI: 199.2195317

Store ID: 8

CPI: 227.0369359

Store ID: 9

CPI: 227.2328068

Store ID: 10

CPI: 131.1930968

Store ID: 11

CPI: 226.9873637

Store ID: 12

CPI: 131.1930968

Store ID: 13

CPI: 131.1930968

Store ID: 14

CPI: 192.3308542

Store ID: 15

CPI: 138.9117

Store ID: 16

CPI: 199.2195317

Store ID: 17

CPI: 131.1930968

Store ID: 18

CPI: 138.9117

Store ID: 19

CPI: 138.9117

Store ID: 20

CPI: 216.1515902

Store ID: 21

CPI: 223.0783366

Store ID: 22

CPI: 142.9376167

Store ID: 23

CPI: 138.9117

Store ID: 24

CPI: 138.9117

Store ID: 25

CPI: 216.1515902

Store ID: 26

CPI: 138.9117

Store ID: 27

CPI: 142.9376167

Store ID: 28

CPI: 131.1930968

Store ID: 29

CPI: 138.9117

Store ID: 30

CPI: 223.0783366

Store ID: 31

CPI: 223.0783366

Store ID: 32

CPI: 199.2195317

Store ID: 33

CPI: 131.1930968

Store ID: 34

CPI: 131.1930968

Store ID: 35

CPI: 142.9376167

Store ID: 36

CPI: 222.1136566

Store ID: 37

CPI: 222.1136566

Store ID: 38

CPI: 131.1930968

Store ID: 39

CPI: 222.1136566

Store ID: 40

CPI: 138.9117

Store ID: 41

CPI: 199.2195317

Store ID: 42

CPI: 131.1930968

Store ID: 43

CPI: 214.7415392

Store ID: 44

CPI: 131.1930968

Store ID: 45

CPI: 192.3308542

Rata-rata CPI pada holiday week dan non-holiday week sama.

Uji Normalitas Weekly Sales:

Statistic: 0.44693084693084695

P-value: 0.6900128635984475

Weekly Sales didistribusikan secara normal

Uji Normalitas Fuel Price:

Statistic: 0.5383061383061383

P-value: 0.42655414389291124

Fuel Price didistribusikan secara normal

* Data dependent : weekly\_sales (penjualan mingguan)
* Data independent :

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5. Unemployment

Nilai korelasi antara variabel independen dan variabel dependen:

Holiday\_Flag 0.036891

Temperature -0.063810

Fuel\_Price 0.009464

Unemployment -0.106176

Weekly\_Sales 1.000000

Name: Weekly\_Sales, dtype: float64

Pasangan variabel independen dan dependen dengan korelasi negatif:

Temperature -0.063810

Unemployment -0.106176

Name: Weekly\_Sales, dtype: float64

Model Regresi:

y = 1007884.9200801768 + 11635.764282979633 x