K**EMENTERIAN PENDIDIKAN, KEBUDAYAAN, RISET DAN TEKNOLOGI** **POLITEKNIK NEGERI MALANG**



**JURUSAN TEKNOLOGI INFORMASI**

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# UJIAN AKHIR SEMESTER (UTS)

**Mata Kuliah** **:** Statistik Komputasi

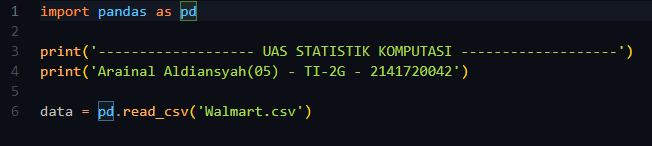
**Nama :** Arainal Aldiansyah

**Kelas :** TI-2G

**Absen :** 05

**NIM :** 2141720042

Import File .CSV



1. **Tentukan Derkripsi data**
2. **Kolom yang dapat dan tidak dapat digunakan untuk Permodelan Regresi**

* Yang Dapat Digunakan
* Weekly\_Sales
* Holiday\_Flag
* Temperature
* Fuel\_Price
* CPI
* Unemployment
* Yang Tidak Dapat Digunakan
* Store
* Date

1. **Nilai statistik deskriptif pada Store 4**

Kode Python :

*#1. B*

print('---------------------------------------------------------------')

data\_penjualan = data[data['Store'] == store\_Code]

weekly\_Sales = data\_penjualan['Weekly\_Sales'].describe()

holiday\_flag = data\_penjualan['Holiday\_Flag'].describe()

temperature = data\_penjualan['Temperature'].describe()

fuel\_price = data\_penjualan['Fuel\_Price'].describe()

customer\_price\_index = data\_penjualan['CPI'].describe()

unemployment = data\_penjualan['Unemployment'].describe()

print("1. B - Nilai Statistik Untuk STORE 4")

print('---------------------------------------------------------------')

print("Weekly Sale:")

print(weekly\_Sales)

print('---------------------------------------------------------------')

print("Holiday Flag:")

print(holiday\_flag)

print('---------------------------------------------------------------')

print("Temperature:")

print(temperature)

print('---------------------------------------------------------------')

print("Fuel Price:")

print(fuel\_price)

print('---------------------------------------------------------------')

print("Customer Price Index:")

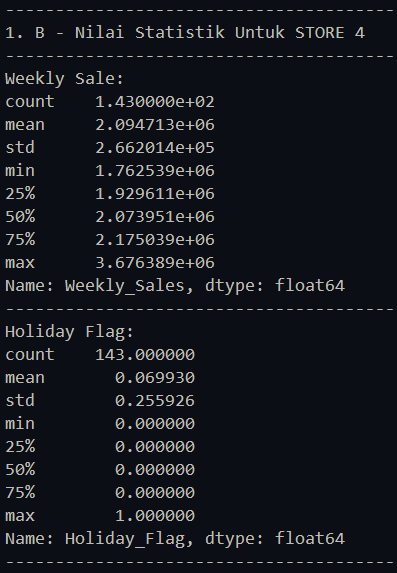
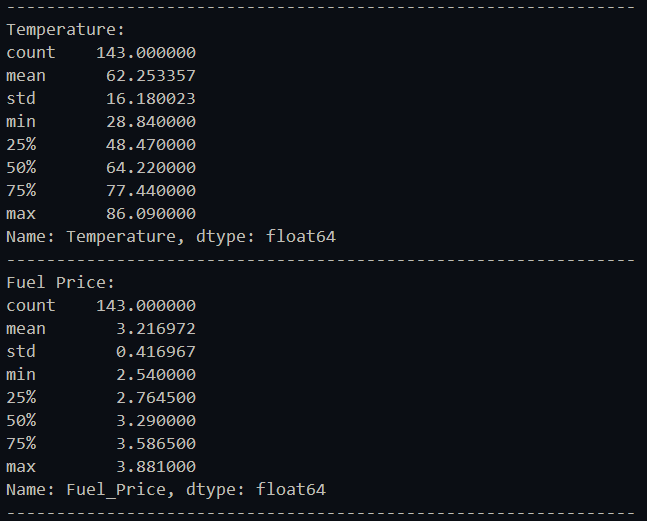
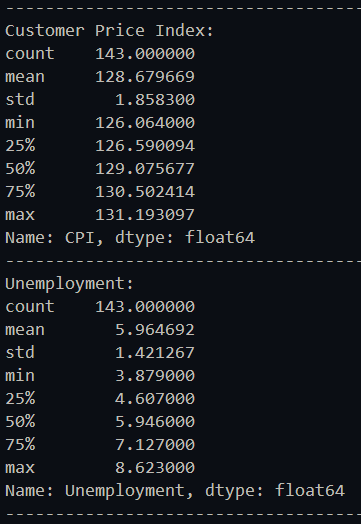
print(customer\_price\_index)

print('---------------------------------------------------------------')

print("Unemployment:")

print(unemployment)

print('---------------------------------------------------------------')

1. **Nilai Q1,Q2,Q3 dan IQR untuk Fuel\_Price, CPI, dan Unemployemnt pada Store 4**

print("1. C - Nilai Q1,Q2,Q3 dan IQR untuk Fuel\_Price, CPI, dan Unemployemnt pada Store 4")

print('---------------------------------------------------------------')

f\_p\_q1 = data\_penjualan['Fuel\_Price'].quantile(0.25)

f\_p\_q2 = data\_penjualan['Fuel\_Price'].quantile(0.50)

f\_p\_q3 = data\_penjualan['Fuel\_Price'].quantile(0.75)

f\_p\_iqr = f\_p\_q3 - f\_p\_q1

cpi\_q1 = data\_penjualan['CPI'].quantile(0.25)

cpi\_q2 = data\_penjualan['CPI'].quantile(0.50)

cpi\_q3 = data\_penjualan['CPI'].quantile(0.75)

cpi\_iqr = cpi\_q3 - cpi\_q1

unemployment\_q1 = data\_penjualan['Unemployment'].quantile(0.25)

unemployment\_q2 = data\_penjualan['Unemployment'].quantile(0.50)

unemployment\_q3 = data\_penjualan['Unemployment'].quantile(0.75)

unemployment\_iqr = unemployment\_q3 - unemployment\_q1

print("Fuel Price :")

print("Nilai Q1 :", f\_p\_q1)

print("Nilai Q2 :", f\_p\_q2)

print("Nilai Q3 :", f\_p\_q3)

print("Nilai IQR:", f\_p\_iqr)

print('---------------------------------------------------------------')

print("Customer Price :")

print("Nilai Q1 :", cpi\_q1)

print("Nilai Q2 :", cpi\_q2)

print("Nilai Q3 :", cpi\_q3)

print("Nilai IQR:", cpi\_iqr)

print('---------------------------------------------------------------')

print("Unemployment :")

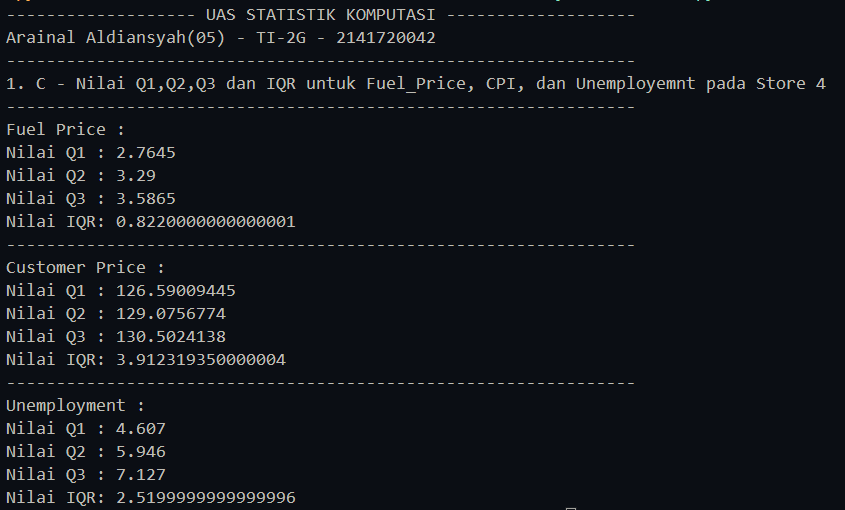
print("Nilai Q1 :", unemployment\_q1)

print("Nilai Q2 :", unemployment\_q2)

print("Nilai Q3 :", unemployment\_q3)

print("Nilai IQR:", unemployment\_iqr)

Hasil :



1. **Variansi dari 1 – holiday week dan 0 – non holiday week**

print("1. D Variansi dari 1 - holiday week dan 0 - non holiday week")

print('---------------------------------------------------------------')

data\_holiday\_week = data.groupby('Holiday\_Flag')['Weekly\_Sales'].var()

for flag, variance in data\_holiday\_week.items():

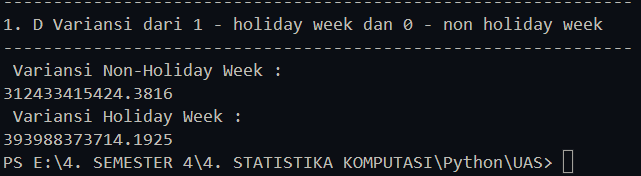
            if flag == 1:

                        print(" Variansi Holiday Week : ")

            else:

                        print(" Variansi Non-Holiday Week : ")

            print(variance)

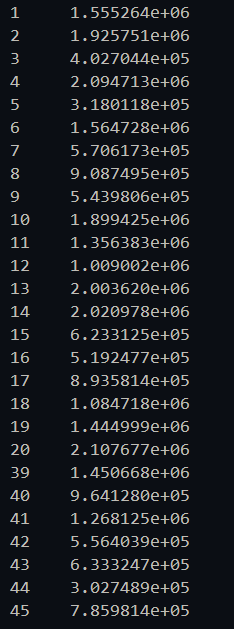
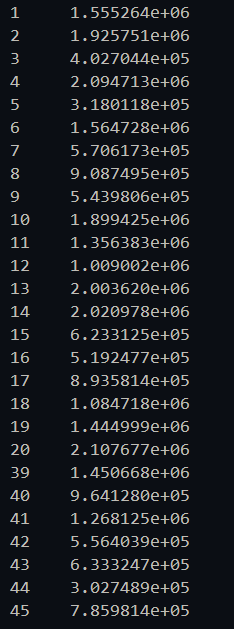
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1. **Apakah rata-rata weekly sale setiap store sama**

*# 1 E*

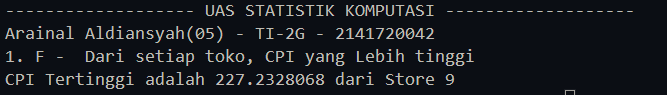
rata\_rata\_weekly\_sales = data.groupby('Store')['Weekly\_Sales'].mean()

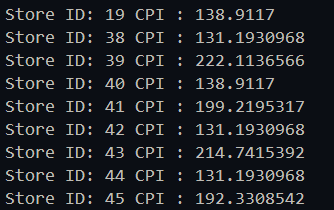
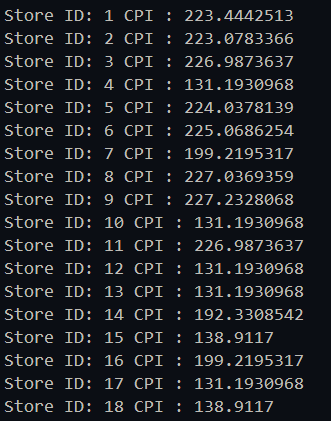
print(rata\_rata\_weekly\_sales)

** **

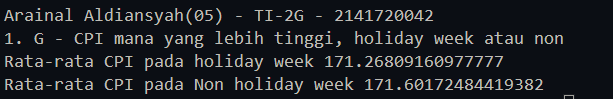
Dari hasil yang ditampilkan data weekly sales disetiap toko tidak sama jadi Rata-rata tiap toko **berbeda**

1. **Dari setiap toko, CPI yang Lebih tinggi**



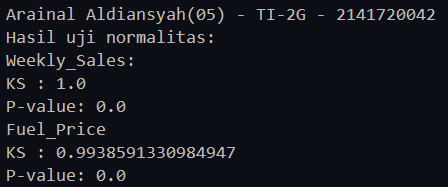


1. **CPI mana yang lebih tinggi, holiday week atau non**

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Rata-rata keduanya hampir memiliki nilai yang sama, hanya sedikit jarak pada nilai komanya dengan CPI pada Non Holiday week lebih unggul sedikit pada nilai komanya

1. **Berdasarkan data tentukan :**
2. **Uji Normalitas**

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Karena nilai P\_Value Weekly\_sales dan Fuel\_Price lebih kecil dari nilai alpa 0,05 maka :

**Keduanya tidak berasal dari distribusi normal**

1. **Variable independen dan dependen**

* Variabel Independen:

• Holiday Flag

• Temperature

• Fuel Price

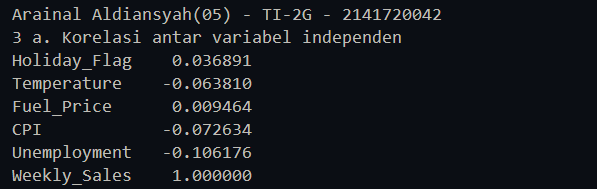
• Customer Price Index

• Unemployment

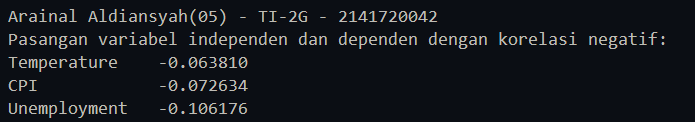
* Variabel Dependen:

• Weekly Sale

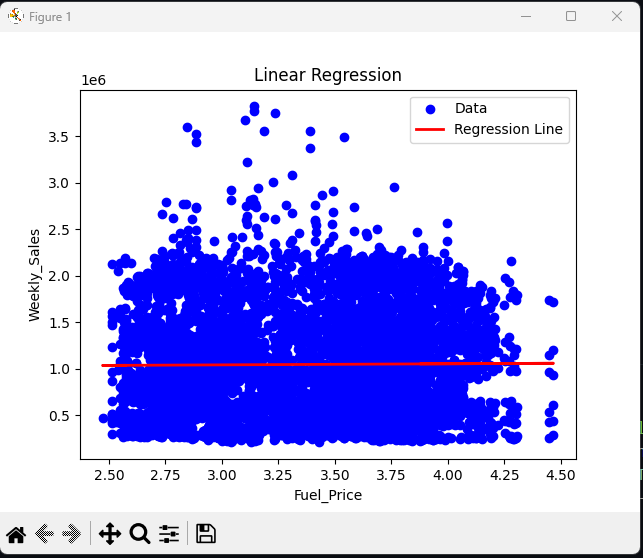
1. **Berdasarkan data tentukan :**
2. **Korelasi antar variabel independen**

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1. **Korelasi Negatif**



1. **Model Regresi berdasarkan Fuel\_Price**

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