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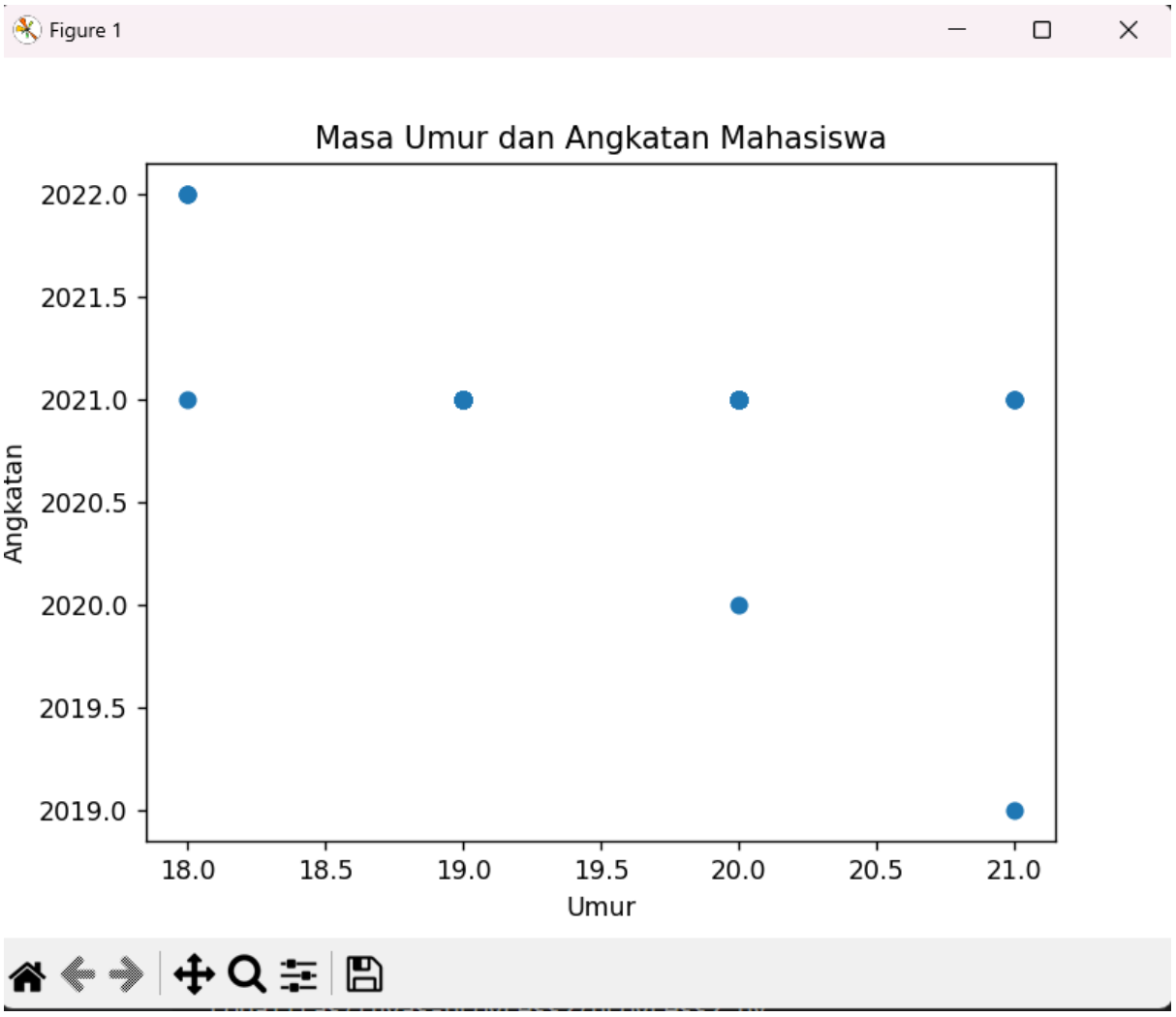
Pemodelan Regresi Menggunakan Tools Python

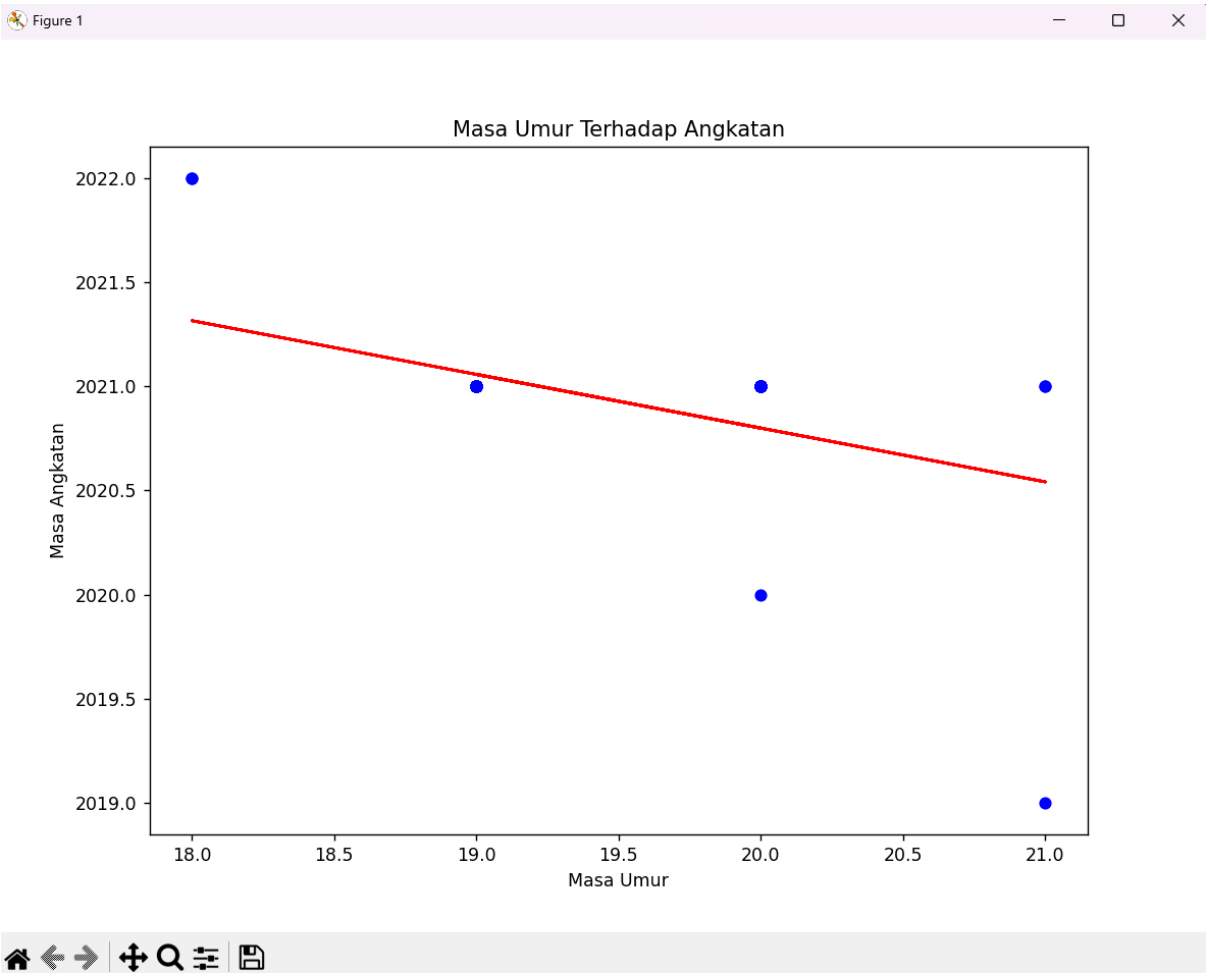
1. Source Code

```
import numpy as np

import pandas as pd

import matplotlib.pyplot as plt

import sklearn


dataset = pd.read_csv('test.csv')

x = dataset.iloc[:, :-1].values

y = dataset.iloc[:, 1].values


dataku = pd.DataFrame(dataset)

plt.scatter(dataku.Umur, dataku.Angkatan)

plt.xlabel("Umur")

plt.ylabel("Angkatan")

plt.title("Masa Umur dan Angkatan Mahasiswa")

plt.show()


from sklearn.model_selection import train_test_split

X_train, X_test, y_train, y_test = train_test_split(x, y, test_size =

0.2, random_state = 0)


from sklearn.linear_model import LinearRegression

regressor = LinearRegression()

regressor.fit(X_train, y_train)
```

```
plt.figure(figsize = (10, 8))
plt.scatter(X_train, y_train, color = 'blue')
plt.plot(X_train, regressor.predict(X_train), color = 'red')
plt.title('Masa Umur Terhadap Angkatan')
plt.xlabel('Masa Umur')
plt.ylabel('Masa Angkatan')
plt.show()
```

2. Output Program





3. Interpretasi Model, Uji Parsial, Uji Simultan, dan Evaluasi Model dengan R Square
    a. Interpretasi Model

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	X10, X8, X6, X3, X5, X2, X9, X4, X7, X1[b]	.	Enter

a. Dependent Variable: Y

b. All requested variables entered.

b. Uji Parsial

Coefficient Correlations[a]

Model			X10	X8	X6	X3	X5	X2	X9	X4	X7	X1
1	Correlations	X10	1.000	.112	.058	-.042	-.128	-.103	-.381	-.051	-.188	.052
		X8	.112	1.000	.072	.029	.024	-.323	-.129	-.246	-.186	-.032
		X6	.058	.072	1.000	-.047	-.127	-.165	-.068	-.078	-.347	-.017
		X3	-.042	.029	-.047	1.000	.185	-.168	.071	-.175	-.105	-.603
		X5	-.128	.024	-.127	.185	1.000	.028	-.064	-.299	.025	-.279
		X2	-.103	-.323	-.165	-.168	.028	1.000	-.004	.139	.121	.048
		X9	-.381	-.129	-.068	.071	-.064	-.004	1.000	.112	.061	-.094
		X4	-.051	-.246	-.078	-.175	-.299	.139	.112	1.000	-.091	.032
		X7	-.188	-.186	-.347	-.105	.025	.121	.061	-.091	1.000	-.128
		X1	.052	-.032	-.017	-.603	-.279	.048	-.094	.032	-.128	1.000
	Covariances	X10	.272	.025	.016	-.012	-.034	-.021	-.093	-.014	-.051	.016
		X8	.025	.182	.016	.007	.005	-.055	-.026	-.053	-.041	-.008
		X6	.016	.016	.277	-.014	-.034	-.034	-.017	-.021	-.095	-.005
		X3	-.012	.007	-.014	.315	.053	-.037	.019	-.050	-.031	-.201
		X5	-.034	.005	-.034	.053	.264	.006	-.015	-.078	.007	-.085
		X2	-.021	-.055	-.034	-.037	.006	.158	-.001	.028	.025	.011
		X9	-.093	-.026	-.017	.019	-.015	-.001	.217	.026	.015	-.026
		X4	-.014	-.053	-.021	-.050	-.078	.028	.026	.258	-.024	.010
		X7	-.051	-.041	-.095	-.031	.007	.025	.015	-.024	.272	-.040
		X1	.016	-.008	-.005	-.201	-.085	.011	-.026	.010	-.040	.352

a. Dependent Variable: Y

c. Uji Simultan

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13072.870	10	1307.287	53.567	.000[b]
	Residual	2245.247	92	24.405		
	Total	15318.117	102			

a. Dependent Variable: Y

b. Predictors: (Constant), X10, X8, X6, X3, X5, X2, X9, X4, X7, X1

d. Evaluasi Model (R Square)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.924[a]	.853	.837	4.94013	2.262

a. Predictors: (Constant), X10, X8, X6, X3, X5, X2, X9, X4, X7, X1

b. Dependent Variable: Y

e. Residuals Statistics

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	25.1455	91.1151	70.8058	11.32102	103
Residual	-18.81521	16.56557	.00000	4.69172	103
Std. Predicted Value	-4.033	1.794	.000	1.000	103
Std. Residual	-3.809	3.353	.000	.950	103

a. Dependent Variable: Y