LAPORAN PRAKTIKUM KECERDASAN BUATAN

LINIER REGRESSION

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2023

HASIL DAN PEMBAHASAN

```
[ ] import pandas as pd
    import matplotlib.pyplot as plt
    from sklearn.linear_model import LinearRegression
    from sklearn.model_selection import train_test_split
```

```
[ ] df = pd.read_csv('Rent.csv', usecols=['area', 'rent'])
```

```
[ ] df.head()
```

	area	rent
0	2000	31500
1	2100	35000
2	2500	41050
3	2250	36100
4	3000	52100

```
[ ] df.shape
```

```
(60, 2)
```

```
[ ] df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 60 entries, 0 to 59
Data columns (total 2 columns):
 #   Column  Non-Null Count  Dtype
---  ------  --------------  -----
 0   area    60 non-null     int64
 1   rent    60 non-null     int64
dtypes: int64(2)
memory usage: 1.1 KB
```

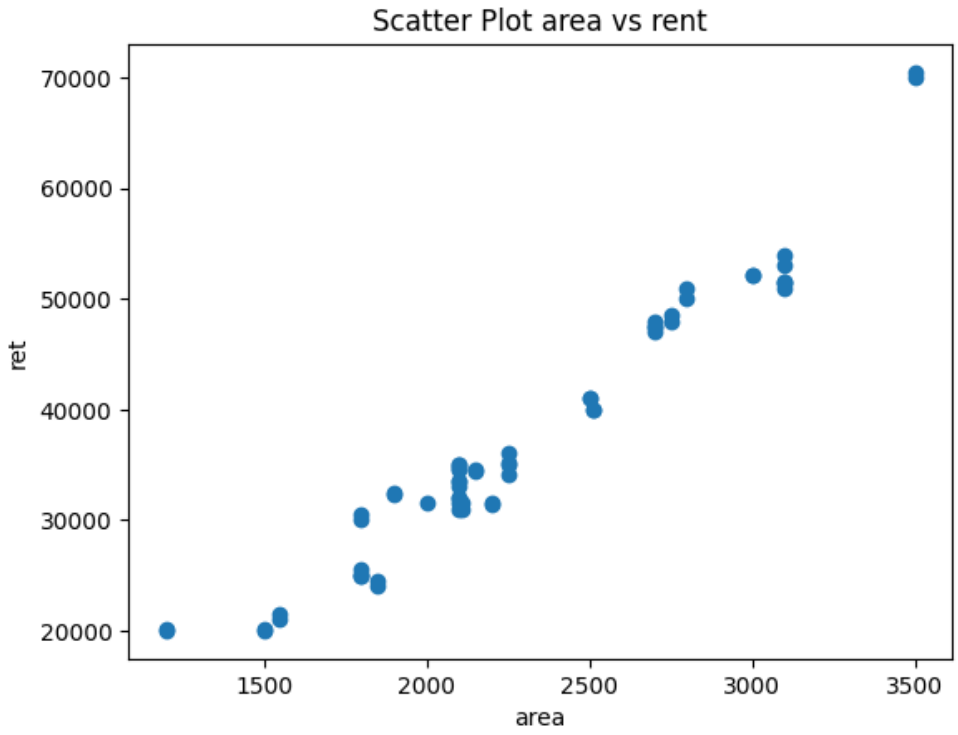
```
[ ]  df.describe()
```

	area	rent
count	60.000000	60.000000
mean	2289.000000	37269.166667
std	538.880509	11770.736234
min	1200.000000	20000.000000
25%	1900.000000	31000.000000
50%	2130.000000	34450.000000
75%	2700.000000	47625.000000
max	3500.000000	70500.000000

```
[ ]  df.isnull().sum()
```

```
area    0
rent    0
dtype: int64
```

```
[ ]  plt.scatter(df['area'], df['rent'])
     plt.xlabel('area')
     plt.ylabel('ret')
     plt.title('Scatter Plot area vs rent')
     plt.show()
```




```
[ ]  df.corr()
```

	area	rent
area	1.000000	0.974807
rent	0.974807	1.000000

```
[ ]  x = df['area'].values.reshape(-1,1)
     y = df['rent'].values.reshape(-1,1)
```

```
[ ]  x_train, x_test, y_train, y_test = train_test_split(x, y, test_size=0.2)
```

```
[ ]  regr = LinearRegression()
```

```
[ ]  regr.fit(x_train, y_train)
```

▾ LinearRegression
LinearRegression()

```
[ ]  print(regr.coef_)
     print(regr.intercept_)
```

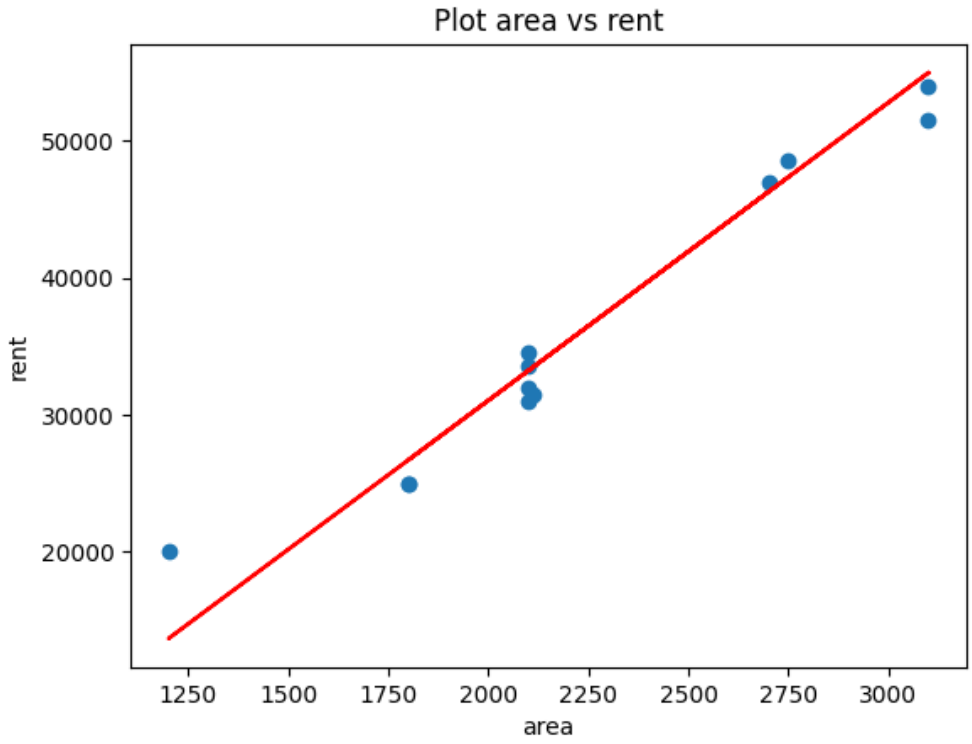
```
[[21.72175394]]
[-12398.27499441]
```

```
[ ]  regr.score(x_test, y_test)
```

```
0.9476393067525147
```

```
[ ]  y_prediksi = regr.predict(x_test)
     plt.scatter(x_test, y_test)
     plt.plot(x_test, y_prediksi, c='r')
     plt.xlabel('area')
     plt.ylabel('rent')
     plt.title('Plot area vs rent')
```

```
Text(0.5, 1.0, 'Plot area vs rent')
```



```
[ ]  regr.predict([[1000]])
```

```
array([[9323.47894409]])
```

```
[ ]  regr.predict([[5000]])
```

```
array([[96210.49469809]])
```

```
[ ]  regr.predict([[10000]])
```

```
array([[204819.26439058]])
```