



# Soal LKS Artificial Intelligence (AI) SMK Kota Malang

15 Februari 2023 @ SMK Telkom Malang

# Mari Kita Prediksi Harga ...

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## TP-LINK TL-WR840N 300Mbps Wireless Router / Wifi Router TPLINK WR840N

Terjual 10 rb+ • ★ 4.9 (10,1rb rating) • Diskusi (1.196)

**Rp158.000**

[Detail](#)

[Spesifikasi](#)

[Info Penting](#)

Kondisi: Baru

Berat Satuan: 900 g

Kategori: **Router**

Etalase: **TP-LINK**

GARANSI RESMI TP-LINK INDONESIA 1 Tahun

TL-WR840N Versi 6.20

Barang Ready, Selama Tayang Ready Stock, langsung di order kak,  
Terima kasih.

...

[Lihat Selengkapnya](#)

### Atur jumlah dan catatan

— 1 + Stok Total: **95466**

[Tambah Catatan](#)

Subtotal **Rp158.000**

**+ Keranjang**

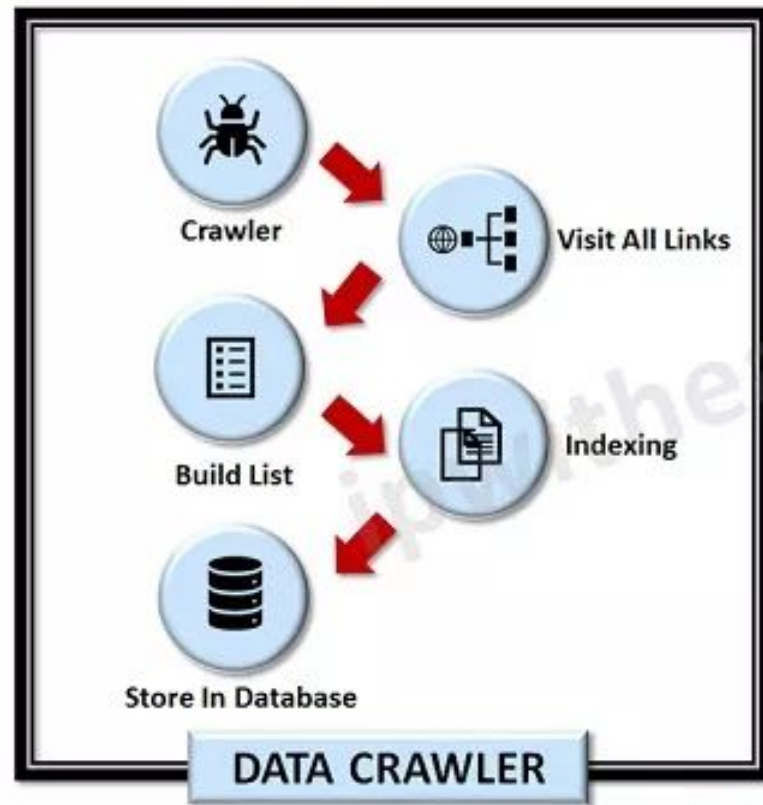
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Studi Kasus :  
Sebuah Perusahaan Elektronik  
Internet ingin anda memprediksi  
harga jual produk dengan SKU  
(TLWR840N) di Platform  
Tokopedia.

# Proses Pengambilan Data (Crawling)

- Data diambil dari platform Tokopedia
- Proses pengambilan data menggunakan proses Crawling
- Crawling dilakukan dengan menginputkan Keyword "TLWR80N" di Search Bar dan mengambil semua data yang ada di list.
- Crawler mengambil semua data yg tampil di list dan menyimpan ke dalam Database
- Proses Crawling dilakukan setiap hari, jika ada list yang sama. Maka data akan di Update



Datains - Marcella - Price Monitoring TP-Link\_TP-Link Price Monitoring\_Table

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A2													
	A	B	C	D	E	F	G	H	I	J	K	L	
1	Date	Last Crawling	SKU Name	Product Name	Url Product	Seller	Merchant	Stock	Item Condition	Filter	Flag	Bottom Price	Origin
2	Oct 22, 2022	Oct 22, 2022	TL WR840N	TP-Link TL-WR840N	<a href="https://tokopedia.com/ccplace-shop">https://tokopedia.com/ccplace-shop</a>	ccplace shop	tokopedia	In Stock	baru	Above	Please Check	155000	
3	Oct 22, 2022	Oct 22, 2022	TL WR840N	Promo TP-LINK	<a href="https://tokopedia.com/gilsaa-shopp">https://tokopedia.com/gilsaa-shopp</a>	gilsaa_shopp	tokopedia	In Stock	baru	Above	Please Check	155000	
4	Oct 22, 2022	Oct 22, 2022	TL WR840N	Tp-Link TL-WR840N	<a href="https://tokopedia.com/ccwinta-shop">https://tokopedia.com/ccwinta-shop</a>	ccwinta shop	tokopedia	In Stock	baru	Above	Please Check	155000	
5	Oct 22, 2022	Oct 22, 2022	TL WR840N	JARINGAN TP-LINK	<a href="https://tokopedia.com/BELSA_SHOP">https://tokopedia.com/BELSA_SHOP</a>	BELSA_SHOP	tokopedia	In Stock	baru	Above	Please Check	155000	
6	Oct 22, 2022	Oct 22, 2022	TL WR840N	TPLink TL-WR840N	<a href="https://tokopedia.com/ccwinta-shop">https://tokopedia.com/ccwinta-shop</a>	ccwinta shop	tokopedia	In Stock	baru	Above	Please Check	155000	
7	Oct 22, 2022	Oct 22, 2022	TL WR840N	TP-Link TL-WR840N	<a href="https://tokopedia.com/Garwitastore-id">https://tokopedia.com/Garwitastore-id</a>	Garwitastore-id	tokopedia	In Stock	baru	Above	Please Check	155000	
8	Oct 22, 2022	Oct 22, 2022	TL WR840N	Tp-link WR840N	<a href="https://tokopedia.com/ccplace-shop">https://tokopedia.com/ccplace-shop</a>	ccplace shop	tokopedia	In Stock	baru	Above	Please Check	155000	
9	Oct 22, 2022	Oct 22, 2022	TL WR840N	Tp-Link TI-Wr840N	<a href="https://tokopedia.com/nugraha-abadi12">https://tokopedia.com/nugraha-abadi12</a>	nugraha abadi12	tokopedia	In Stock	baru	Above	Please Check	155000	
10	Oct 22, 2022	Oct 22, 2022	TL WR840N	READY STOK T	<a href="https://tokopedia.com/Branta-Official">https://tokopedia.com/Branta-Official</a>	Branta Official	tokopedia	In Stock	baru	Above	Please Check	155000	
11	Oct 22, 2022	Oct 22, 2022	TL WR840N	TPLink TL-WR840N	<a href="https://tokopedia.com/STORE_FATAH">https://tokopedia.com/STORE_FATAH</a>	STORE_FATAH	tokopedia	In Stock	baru	Above	Please Check	155000	
12	Oct 22, 2022	Oct 22, 2022	TL WR840N	XR353 TP-LINK	<a href="https://tokopedia.com/distro-netra">https://tokopedia.com/distro-netra</a>	distro netra	tokopedia	In Stock	baru	Above	Please Check	155000	
13	Oct 22, 2022	Oct 22, 2022	TL WR840N	SALE TERBATA	<a href="https://tokopedia.com/Branta-Official">https://tokopedia.com/Branta-Official</a>	Branta Official	tokopedia	In Stock	baru	Above	Please Check	155000	
14	Oct 22, 2022	Oct 22, 2022	TL WR840N	Gt Tp-Link TI-Wr840N	<a href="https://tokopedia.com/madridismoid">https://tokopedia.com/madridismoid</a>	madridismoid	tokopedia	In Stock	baru	Above	Please Check	155000	
15	Oct 22, 2022	Oct 22, 2022	TL WR840N	ROUTER WIRELESS	<a href="https://tokopedia.com/ccwinta-shop">https://tokopedia.com/ccwinta-shop</a>	ccwinta shop	tokopedia	In Stock	baru	Above	Please Check	155000	
16	Oct 22, 2022	Oct 22, 2022	TL WR840N	BEST SELLER T	<a href="https://tokopedia.com/Branta-Official">https://tokopedia.com/Branta-Official</a>	Branta Official	tokopedia	In Stock	baru	Above	Please Check	155000	
17	Oct 22, 2022	Oct 22, 2022	TL WR840N	DISKON Wireless	<a href="https://tokopedia.com/Branta-Official">https://tokopedia.com/Branta-Official</a>	Branta Official	tokopedia	In Stock	baru	Above	Please Check	155000	
18	Oct 22, 2022	Oct 22, 2022	TL WR840N	WIRELESS ROUTER	<a href="https://tokopedia.com/maju-makmur-9">https://tokopedia.com/maju-makmur-9</a>	maju makmur 9	tokopedia	In Stock	baru	Above	Please Check	155000	
19	Oct 22, 2022	Oct 22, 2022	TL WR840N	GARANSI RESMI	<a href="https://tokopedia.com/boneshop9">https://tokopedia.com/boneshop9</a>	boneshop9	tokopedia	In Stock	baru	Above	Please Check	155000	
20	Oct 22, 2022	Oct 22, 2022	TL WR840N	DISKON ROUTER	<a href="https://tokopedia.com/Branta-Official">https://tokopedia.com/Branta-Official</a>	Branta Official	tokopedia	In Stock	baru	Above	Please Check	155000	
21	Oct 22, 2022	Oct 22, 2022	TL WR840N	TP-LINK TL-WR840N	<a href="https://tokopedia.com/LUCU_U">https://tokopedia.com/LUCU_U</a>	LUCU_U	tokopedia	In Stock	baru	Above	Please Check	155000	
22	Oct 22, 2022	Oct 22, 2022	TL WR840N	TP-LINK WIFI W	<a href="https://tokopedia.com/KELA_STORE">https://tokopedia.com/KELA_STORE</a>	KELA_STORE	tokopedia	In Stock	baru	Above	Please Check	155000	
23	Oct 22, 2022	Oct 22, 2022	TL WR840N	TP-LINK TL-WR840N	<a href="https://tokopedia.com/THANTHAN_AC">https://tokopedia.com/THANTHAN_AC</a>	THANTHAN_AC	tokopedia	In Stock	baru	Above	Please Check	155000	

# Kamus Data

Date	Waktu Pengambilan Data
Last Crawling	Waktu Update Data
SKU Name	ID Produk
Product Name	Nama Produk (Title) yang tertera di Ecommerce
URL Product	URL produk di ECommerce
Seller	Nama Toko
Merchant	Nama E Commerce
Stock	Status Ketersediaan barang
Item Condition	Baru / Bekas

## Kamus Data (2)

Filter	Apakah Harga diatas bottom price ?
Flag	Keterangan Tambahan
Bottom Price	Harga Grosir (Beli dari Pabrik)
Original Price	Harga yang di set oleh toko di awal penjualan
Discount	Besaran diskon yang diberikan
Selling Price	Harga Penjualan setelah diberikan diskon
Discrepancy	Perbedaan harga
Sales Quantity	Jumlah barang terjual
Sales Revenue	Jumlah pendapatan dari barang terjual

# SOAL

Buatlah Pemodelan data yang meramalkan produk TL WR80N dengan menggunakan metode Simple Linear Regression !



# Tahapan Pengerjaan

No.	Modul	Kriteria/Sub-Kriteria	Total	Durasi (jam)
1	A	Data Preparation	15	1
2	B	Exploratory Data Analysis	15	1
3	C	Pemodelan Data	40	3
4	D	Evaluasi Model Prediksi	30	1
Total			100	6

## Hints : Data Preparation (1 Jam)

- Load Data CSV ke IDE python (Jupyter Notebook or Visual Studio Code)
- Lakukan Inspeksi data : apakah datanya hilang ? apakah datanya lengkap ? dll.
- Lakukan Cleaning Data jika diperlukan (menghilangkan beberapa bagian data yang mungkin tidak diperlukan)
- Dan langkah lain yang diperlukan.

## Hints : Exploratory Data Analysis (1 Jam)

- Temukan Karakteristik Data dengan cara membuat visualisasi data
- Visualisasi berupa berbagai macam chart dan boxplot.
- Bisa menggunakan library Matplotlib atau seaborn
- Jangan lupa berikan comment, apa yang anda temukan dari visualisasi data
- Langkah lain yang diperlukan

# Hints: Pemodelan Data (3 Jam)

Secara matematis, persamaan dari *Simple Linear Regression* adalah sebagai berikut:

$$| \quad y = mx + b + e$$

y = dependent variable

m = slope dari garis (persamaan diatas merupakan sebuah garis)

x = independent variable

b = intercept

e = error

## Hints: Evaluasi Model Prediksi (1 Jam)

Jika diketahui jumlah data sebesar 100% , maka bagi dua (split) data menjadi 80 % training, 20 % testing. Maka berapa akurasi prediksi dari model yang anda lakukan ?

Jika ada grafis prediksi akan mendapatkan nilai tambah.

Note : Anda boleh menggunakan metode perhitungan akurasi lain.

<b>Waktu</b>	<b>Durasi (menit)</b>	<b>Kegiatan</b>
07.30 – 08.00	30	Persiapan Lomba
08.00 - 08.30	30	Penjelasan pelaksanaan oleh juri
08.30 - 09.30	60	Data Preparation
09.30 – 10.30	60	Exploratory Data Analysis
10.30 - 11.30	60	Pemodelan Data Sesi I
<b>11.30 - 12.30</b>	<b>60</b>	<b>ISOMA</b>
12.30 -14.30	120	Pemodelan Data Sesi II
15.00 – 16.00	60	Evaluasi Model Prediksi
16.00 – 16.45	45	Break untuk Peserta dan Sidang Penilaian oleh dewan Juri
16.45 – 17.30	45	Pengumuman Pemenang dan Penutupan

Selamat Mengerjakan :)

Selamat mengeksplorasi  
data...

