

**LAPORAN PRAKTIKUM  
BUSINESS INTELLIGENCE**

**TUGAS WEEK 3**



**Disusun Oleh :**  
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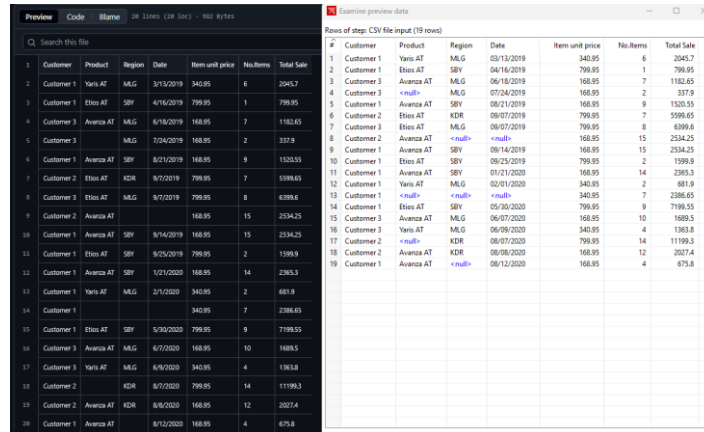
**JURUSAN TEKNOLOGI INFORMASI  
POLITEKNIK NEGERI MALANG  
2024/2025**

## TUGAS 2

### 1. Apakah data hasil eksekusi sesuai dengan data aslinya?

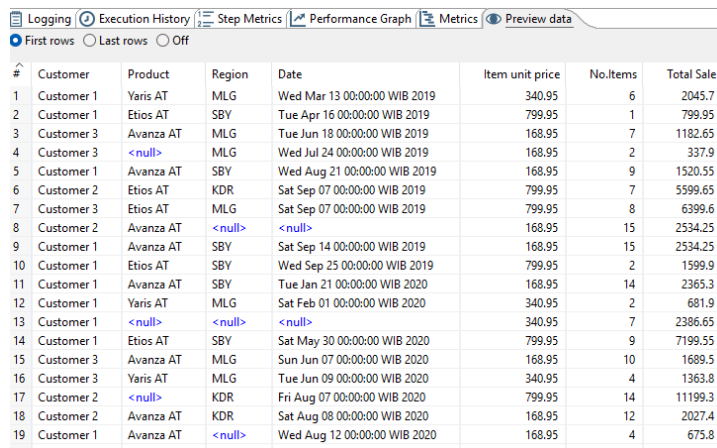
**Jawab:** Sesuai dengan data aslinya, hanya saja setelah di ekstrak value dari date lebih detail

Data sebelum di ekstrak:



| #  | Customer   | Product   | Region | Date       | Item unit price | No.Items | Total Sale |
|----|------------|-----------|--------|------------|-----------------|----------|------------|
| 1  | Customer 1 | Yaris AT  | MLG    | 3/13/2019  | 340.95          | 6        | 2045.7     |
| 2  | Customer 1 | Etios AT  | SBY    | 4/16/2019  | 799.95          | 1        | 799.95     |
| 3  | Customer 3 | Avanza AT | MLG    | 6/18/2019  | 168.95          | 7        | 1182.65    |
| 4  | Customer 3 | <null>    | MLG    | 07/24/2019 | 168.95          | 2        | 337.9      |
| 5  | Customer 1 | Avanza AT | SBY    | 08/21/2019 | 168.95          | 9        | 1520.55    |
| 6  | Customer 2 | Etios AT  | KDR    | 09/07/2019 | 799.95          | 7        | 5599.65    |
| 7  | Customer 3 | Etios AT  | MLG    | 09/07/2019 | 799.95          | 8        | 6399.6     |
| 8  | Customer 2 | Avanza AT | <null> | <null>     | 168.95          | 15       | 2534.25    |
| 9  | Customer 1 | Avanza AT | SBY    | 09/14/2019 | 168.95          | 15       | 2534.25    |
| 10 | Customer 1 | Etios AT  | SBY    | 09/25/2019 | 799.95          | 2        | 1599.9     |
| 11 | Customer 1 | Avanza AT | SBY    | 01/21/2020 | 168.95          | 14       | 2365.3     |
| 12 | Customer 1 | Yaris AT  | MLG    | 02/01/2020 | 340.95          | 2        | 681.9      |
| 13 | Customer 1 | <null>    | <null> | <null>     | 340.95          | 7        | 2386.65    |
| 14 | Customer 1 | Etios AT  | SBY    | 05/30/2020 | 799.95          | 9        | 7199.55    |
| 15 | Customer 3 | Avanza AT | MLG    | 06/07/2020 | 168.95          | 10       | 1689.5     |
| 16 | Customer 3 | Yaris AT  | MLG    | 06/09/2020 | 340.95          | 4        | 1363.8     |
| 17 | Customer 2 | <null>    | KDR    | 08/07/2020 | 799.95          | 14       | 11199.3    |
| 18 | Customer 2 | Avanza AT | KDR    | 08/08/2020 | 168.95          | 12       | 2027.4     |
| 19 | Customer 1 | Avanza AT | <null> | 08/12/2020 | 168.95          | 4        | 675.8      |

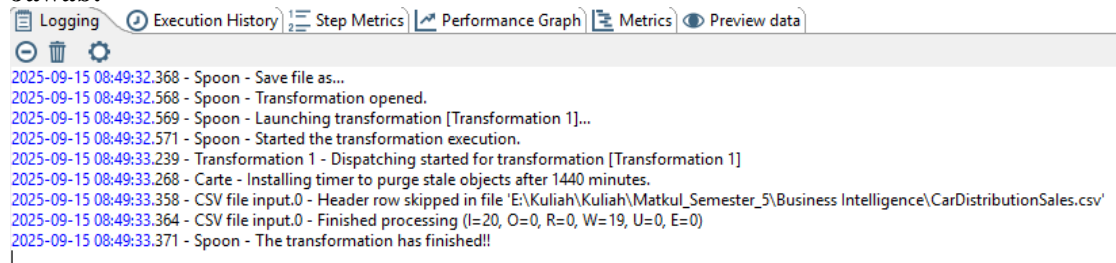
Data sesudah di ekstrak:



| #  | Customer   | Product   | Region | Date                         | Item unit price | No.Items | Total Sale |
|----|------------|-----------|--------|------------------------------|-----------------|----------|------------|
| 1  | Customer 1 | Yaris AT  | MLG    | Wed Mar 13 00:00:00 WIB 2019 | 340.95          | 6        | 2045.7     |
| 2  | Customer 1 | Etios AT  | SBY    | Tue Apr 16 00:00:00 WIB 2019 | 799.95          | 1        | 799.95     |
| 3  | Customer 3 | Avanza AT | MLG    | Tue Jun 18 00:00:00 WIB 2019 | 168.95          | 7        | 1182.65    |
| 4  | Customer 3 | <null>    | MLG    | Wed Jul 24 00:00:00 WIB 2019 | 168.95          | 2        | 337.9      |
| 5  | Customer 1 | Avanza AT | SBY    | Wed Aug 21 00:00:00 WIB 2019 | 168.95          | 9        | 1520.55    |
| 6  | Customer 2 | Etios AT  | KDR    | Sat Sep 07 00:00:00 WIB 2019 | 799.95          | 7        | 5599.65    |
| 7  | Customer 3 | Etios AT  | MLG    | Sat Sep 07 00:00:00 WIB 2019 | 799.95          | 8        | 6399.6     |
| 8  | Customer 2 | Avanza AT | <null> | <null>                       | 168.95          | 15       | 2534.25    |
| 9  | Customer 1 | Avanza AT | SBY    | Sat Sep 14 00:00:00 WIB 2019 | 168.95          | 15       | 2534.25    |
| 10 | Customer 1 | Etios AT  | SBY    | Wed Sep 25 00:00:00 WIB 2019 | 799.95          | 2        | 1599.9     |
| 11 | Customer 1 | Avanza AT | SBY    | Tue Jan 21 00:00:00 WIB 2020 | 168.95          | 14       | 2365.3     |
| 12 | Customer 1 | Yaris AT  | MLG    | Sat Feb 01 00:00:00 WIB 2020 | 340.95          | 2        | 681.9      |
| 13 | Customer 1 | <null>    | <null> | <null>                       | 340.95          | 7        | 2386.65    |
| 14 | Customer 1 | Etios AT  | SBY    | Sat May 30 00:00:00 WIB 2020 | 799.95          | 9        | 7199.55    |
| 15 | Customer 3 | Avanza AT | MLG    | Sun Jun 07 00:00:00 WIB 2020 | 168.95          | 10       | 1689.5     |
| 16 | Customer 3 | Yaris AT  | MLG    | Tue Jun 09 00:00:00 WIB 2020 | 340.95          | 4        | 1363.8     |
| 17 | Customer 2 | <null>    | KDR    | Fri Aug 07 00:00:00 WIB 2020 | 799.95          | 14       | 11199.3    |
| 18 | Customer 2 | Avanza AT | KDR    | Sat Aug 08 00:00:00 WIB 2020 | 168.95          | 12       | 2027.4     |
| 19 | Customer 1 | Avanza AT | <null> | Wed Aug 12 00:00:00 WIB 2020 | 168.95          | 4        | 675.8      |

### 2. PDI Spoon melakukan proses extract, perhatikan pada Tab Logging di Execution Results Area, langkah-langkah apa sajakah yang dilakukan PDI Spoon untuk melakukan extract data?

**Jawab:**



| Logging                 | Execution History   | Step Metrics | Performance Graph | Metrics | Preview data |
|-------------------------|---|--------------|-------------------|---------|--------------|
| 2025-09-15 08:49:32.368 | - Spoon - Save file as...   |              |                   |         |              |
| 2025-09-15 08:49:32.568 | - Spoon - Transformation opened.  |              |                   |         |              |
| 2025-09-15 08:49:32.569 | - Spoon - Launching transformation [Transformation 1]...  |              |                   |         |              |
| 2025-09-15 08:49:32.571 | - Spoon - Started the transformation execution.   |              |                   |         |              |
| 2025-09-15 08:49:33.239 | - Transformation 1 - Dispatching started for transformation [Transformation 1]  |              |                   |         |              |
| 2025-09-15 08:49:33.268 | - Carte - Installing timer to purge stale objects after 1440 minutes.   |              |                   |         |              |
| 2025-09-15 08:49:33.358 | - CSV file input.0 - Header row skipped in file 'E:\Kuliah\Kuliah\Matkul_Semester_5\Business Intelligence\CarDistributionSales.csv' |              |                   |         |              |
| 2025-09-15 08:49:33.364 | - CSV file input.0 - Finished processing (I=20, O=0, R=0, W=19, U=0, E=0)   |              |                   |         |              |
| 2025-09-15 08:49:33.371 | - Spoon - The transformation has finished!!   |              |                   |         |              |

1. **Memulai transformasi:** PDI Spoon membuka dan menjalankan file transformasi.
2. **Membaca data:** Membaca file sumber (dalam kasus ini, CarDistributionSales.csv).
3. **Memproses data:** Memproses baris data yang dibaca, dengan total 20 baris input dan 19 baris berhasil diproses.
4. **Menyelesaikan transformasi:** PDI Spoon mencatat bahwa proses telah selesai.

### 3. Perhatikan gambar dibawah ini! Apa yang dimaksud dengan I,O,R,W,U,E ?

2024/02/17 06:51:48 - Input Data CSV.0 - Finished processing (I=20, O=0, R=0, W=19, U=0, E=0)

Jawab:

- **I = Input:** Jumlah baris data yang masuk ke dalam langkah pemrosesan. Dalam kasus ini, I=20 berarti ada 20 baris data yang masuk.
- **O = Output:** Jumlah baris data yang keluar dari langkah pemrosesan ini.
- **R = Read:** Jumlah baris yang berhasil dibaca dari sumber data.
- **W = Written:** Jumlah baris yang ditulis atau berhasil diproses ke tahap selanjutnya. Dalam contoh ini, W=19 artinya ada 19 baris yang berhasil diproses.
- **U = Updated:** Jumlah baris data yang diperbarui (misalnya, dalam operasi upsert atau update).
- **E = Error/Rejected:** Jumlah baris data yang mengalami kesalahan atau ditolak selama pemrosesan.

## TUGAS 3

### 1. Apa perbedaan isi data output dilihat dari isi file csv dan file excel?

Jawab: perbedaannya terletak pada file excel diisi oleh data yang memiliki value null, sedangkan pada file csv diisi oleh data yang lengkap tanpa ad value null

### 2. Jelaskan apa yang terjadi pada proses Filter rows!

Jawab:

- **Kondisi:** Data akan dicek apakah semua kolom (Customer, Product, Region, dll.) **TIDAK KOSONG**.
- **Aliran "True":** Jika semua kolom terisi (kondisi terpenuhi), data akan dikirim ke **Text file output**.
- **Aliran "False":** Jika ada satu atau lebih kolom yang kosong (kondisi tidak terpenuhi), data akan dikirim ke **Microsoft Excel writer**.

## STUDI KASUS

The screenshot displays a data processing workflow. At the top, a status bar shows '2024/02/17 06:51:48 - Input Data CSV.0 - Finished processing (I=20, O=0, R=0, W=19, U=0, E=0)'. Below this, a table lists data rows with columns for ID, Name, and other attributes. A 'Filter rows' dialog box is open, showing a list of conditions for filtering data. The conditions include 'Pekerjaan = [Mahasiswa]', 'Pekerjaan = [Wiraswasta]', 'Pekerjaan = [Guru]', 'Pekerjaan = [Pegawai Swasta]', 'Pekerjaan = [Freelancer]', 'Pekerjaan = [Akanatan]', and 'Pekerjaan = [Pensiun]'. The 'Send data to step' dialog box is also visible, showing the output of the filter process. The 'Send true' data to step is 'MayasatMahasiswa' and the 'Send false' data to step is 'MayasatLainnya'.

