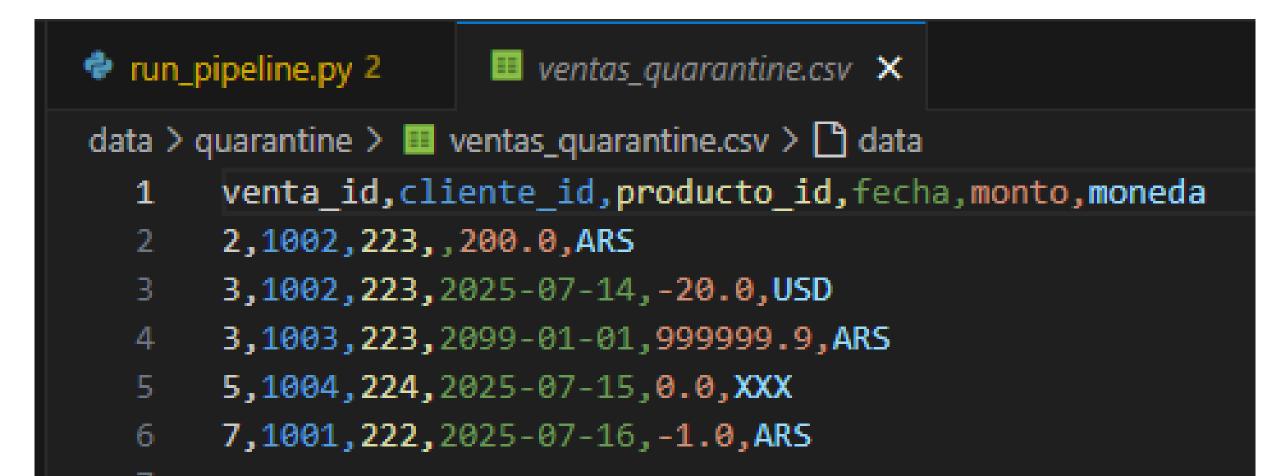


```
data > bronze > 🔠 ventas.csv > 🛅 data
      venta id,fecha,cliente id,producto id,monto,moneda
      1,2025-07-14,1001,222,150.0,ARS
      2,,1002,223,200.0,ARS
      3,2025-07-14,1002,223,-20.0,USD
      3,2099-01-01,1003,223,999999.9,ARS
  6
      5,2025-07-15,1004,224,0.0,XXX
      6,2025-07-15,1005,225,85.5,USD
      7,2025-07-16,1001,222,-1.0,ARS
      8,2025-07-16,1002,223,42.0,ARS
 10
      9,2025-07-17,1003,223,13.2,USD
 11
      10,2025-07-17,1004,224,7.7,ARS
 12
      111,2025-07-18,1006,300,1000000.0,ARS
      12,2025-07-19,1007,224,7.8,ARS
 13
 14
      13,2025-07-19,1002,200,150.0,USD
```



```
run_pipeline.py 2
```

```
ventas_silver.csv ×
```

```
data > silver > 🔠 ventas silver.csv > 🛅 data
       venta id, cliente id, producto id, fecha, monto, moneda
       1,1001,222,2025-07-14,150.0,ARS
  3
       6,1005,225,2025-07-15,85.5,USD
       8,1002,223,2025-07-16,42.0,ARS
  5
       9,1003,223,2025-07-17,13.2,USD
  6
       10,1004,224,2025-07-17,7.7,ARS
       111,1006,300,2025-07-18,1000000.0,ARS
  8
       12,1007,224,2025-07-19,7.8,ARS
  9
       13,1002,200,2025-07-19,150.0,USD
```



run_pipeline.py 2

```
■ ventas_gold.csv ×
```

```
data > gold > 🔠 ventas_gold.csv > 🛅 data
       venta id, cliente id, producto id, fecha, monto, moneda
       1,1001,222,2025-07-14,150.0,ARS
       6,1005,225,2025-07-15,85.5,USD
       8,1002,223,2025-07-16,42.0,ARS
       9,1003,223,2025-07-17,13.2,USD
       10,1004,224,2025-07-17,7.7,ARS
       111,1006,300,2025-07-18,1000000.0,ARS
  8
       12,1007,224,2025-07-19,7.8,ARS
  9
       13,1002,200,2025-07-19,150.0,USD
```

```
Help
                                                                       Pipeline Validations
run_pipeline.py 2
                  ≡ pipeline.log ×
project > logs > ≡ pipeline.log
       2025-09-26 10:00:49,089 - WARNING - pipeline - X Columna monto contiene valores negativos
       2025-09-26 10:00:49,090 - WARNING - pipeline - X Existen fechas futuras en 'fecha'
 18
       2025-09-26 10:00:49,093 - INFO - pipeline - Reportes escritos en: C:\Users\mlope\OneDrive\Escri
 19
       2025-09-26 10:00:49,100 - INFO - pipeline - SILVER actualizado: C:\Users\mlope\OneDrive\Escrito
       2025-09-26 10:00:49,100 - INFO - pipeline - QUARANTINE actualizado: C:\Users\mlope\OneDrive\Esc
 21
 22
       2025-09-26 10:00:49,100 - INFO - pipeline - Ejecución finalizada.
 23
       2025-09-26 14:15:07,838 - INFO - pipeline - Leyendo CSV desde: C:\Users\mlope\OneDrive\Escritor
       2025-09-26 14:15:07,885 - INFO - pipeline - Validaciones ejecutadas. Errores detectados: 2
       2025-09-26 14:15:07,885 - WARNING - pipeline - X Columna monto contiene valores negativos
 25
       2025-09-26 14:15:07,886 - WARNING - pipeline - X Existen fechas futuras en 'fecha'
       2025-09-26 14:15:07,894 - INFO - pipeline - Reportes escritos en: C:\Users\mlope\OneDrive\Escri
       2025-09-26 14:15:07,919 - INFO - pipeline - SILVER actualizado: C:\Users\mlope\OneDrive\Escrito
       2025-09-26 14:15:07,921 - INFO - pipeline - QUARANTINE actualizado: C:\Users\mlope\OneDrive\Esc
 29
       2025-09-26 14:15:07,922 - INFO - pipeline - Ejecución finalizada.
 31
       2025-09-28 15:06:12,150 - INFO - pipeline - Leyendo CSV desde: C:\Users\mlope\OneDrive\Escritor
 32
       2025-09-28 15:06:12,173 - INFO - pipeline - Validaciones ejecutadas. Errores detectados: 2
       2025-09-28 15:06:12,173 - WARNING - pipeline - X Columna monto contiene valores negativos
       2025-09-28 15:06:12,173 - WARNING - pipeline - X Existen fechas futuras en 'fecha'
       2025-09-28 15:06:12,180 - INFO - pipeline - Reportes escritos en: C:\Users\mlope\OneDrive\Escri
       2025-09-28 15:06:12,199 - INFO - pipeline - SILVER actualizado: C:\Users\mlope\OneDrive\Escrito
 37
       2025-09-28 15:06:12,199 - INFO - pipeline - QUARANTINE actualizado: C:\Users\mlope\OneDrive\Esc
       2025-09-28 15:06:12,201 - INFO - pipeline - GOLD actualizado: C:\Users\mlope\OneDrive\Escritorio
       2025-09-28 15:06:12,216 - INFO - pipeline - GOLD derivados: daily=8 filas, by cliente=8 filas
       2025-09-28 15:06:12,216 - INFO - pipeline - Ejecución finalizada.
 41
```

```
project > logs > 🔠 validation_report.csv > 🛅 data
       timestamp,error
       2025-09-26 09:20:37, 🗙
       2025-09-26 09:20:37, X
       2025-09-26 09:28:08, 🗙
       2025-09-26 09:28:08, 🗙
       2025-09-26 09:41:42, 🗙
       2025-09-26 09:41:42, 🗙
       2025-09-26 09:56:10, X
       2025-09-26 09:56:10, X
 10
       2025-09-26 10:00:49, X
       2025-09-26 10:00:49, 🗙
       2025-09-26 14:15:07, 🗙
       2025-09-26 14:15:07, 🗙
 13
       2025-09-28 15:06:12, X
 14
       2025-09-28 15:06:12, 🗙
```

