

SALES AND FRAUD DETECTION USING SQL

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DATASET: Kaggle

TOOLS USED: SQL



1. Introduction

Data analytics plays a crucial role in modern industries, especially in finance and e-commerce. Detecting fraudulent transactions early saves both money and customer trust. This project uses SQL to explore a sales dataset and apply conditional logic to flag transactions as suspicious based on defined business rules.

2. Objectives

- To explore and analyze sales transaction data using SQL.
- To identify fraudulent transactions using query logic.
- To generate insights that support fraud detection and prevention.
- To summarize findings and propose preventive strategies.

3. Dataset Description

- **Source:** Kaggle (or your dataset source)
- **File:** sales_data.csv
- **Size:** ~10,000 records
- **Key Columns:**
 - Transaction_ID
 - Customer_ID
 - Amount
 - Product
 - Location
 - Timestamp

4. Data Preprocessing

- Loaded the CSV file into **MySQL** using the LOAD DATA INFILE command or MySQL Shell.
- Removed null values and duplicates.
- Created new derived columns like Day, Month, Hour for time-based analysis.
- Ensured data consistency in Amount and Location.

5. SQL Operations and Logic

Queries Used:

- **Basic**
SELECT, WHERE , GROUP BY, ORDER BY, LIMIT
- **Aggregations:**
SUM(Amount), COUNT (*), AVG(Amount)
- **Joins (if** Joining customer and transaction tables.

6. Queries

1. Creating Sales Database:

```
mysql> create database sales;
Query OK, 1 row affected (0.05 sec)

mysql> use sales;
Database changed
mysql> CREATE TABLE sales.data(product_id VARCHAR(50),product_name TEXT,category TEXT,discounted_price DECIMAL(10,2),actual_price DECIMAL(10,2),discount_percentage INT,rating VARCHAR(10),rating_count INT,about_product TEXT,user_id TEXT,user_name TEXT,review_id TEXT,review_title TEXT,review_content TEXT,img_link TEXT,product_link TEXT);
Query OK, 0 rows affected (0.06 sec)
```

Tables in the database:

```
mysql> DESC sales_data;
```

Field	Type	Null	Key	Default	Extra
product_id	varchar(50)	YES		NULL	
product_name	text	YES		NULL	
category	text	YES		NULL	
discounted_price	decimal(10,2)	YES		NULL	
actual_price	decimal(10,2)	YES		NULL	
discount_percentage	int	YES		NULL	
rating	varchar(10)	YES		NULL	
rating_count	int	YES		NULL	
about_product	text	YES		NULL	
user_id	text	YES		NULL	
user_name	text	YES		NULL	
review_id	text	YES		NULL	
review_title	text	YES		NULL	
review_content	text	YES		NULL	
img_link	text	YES		NULL	
product_link	text	YES		NULL	

```
16 rows in set (0.00 sec)
```

Loading Dataset into Mysql:

```
mysql> LOAD DATA INFILE "C:/ProgramData/MySQL/MySQL Server 8.0/Uploads/cleaned_amazon.csv" INTO TABLE sales_data FIELDS TERMINATED BY ',' ENCLOSED BY '"' LINES TERMINATED BY '\n' IGNORE 1 ROWS;
Query OK, 1465 rows affected (0.30 sec)
Records: 1465 Deleted: 0 Skipped: 0 Warnings: 0
```

Total revenue:

```
mysql> SELECT SUM(discounted_price) AS total_revenue FROM sales_data;
```

total_revenue
4578580.43

```
1 row in set (0.05 sec)
```

Most Sold Product Category:

```
mysql> SELECT category,COUNT(*) AS total_sales FROM sales_data GROUP BY category ORDER BY total_sales DESC;
```

category	total_sales
Computers&Accessories Accessories&Peripherals Cables&Accessories Cables USBCables	233
Electronics WearableTechnology SmartWatches	76
Electronics Mobiles&Accessories Smartphones&BasicMobiles Smartphones	68
Electronics HomeTheater,TV&Video Televisions SmartTelevisions	63
Electronics Headphones,Earbuds&Accessories Headphones In-Ear	52
Electronics HomeTheater,TV&Video Accessories RemoteControls	49
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances MixerGrinders	27
Electronics HomeTheater,TV&Video Accessories Cables HDMICables	24
Computers&Accessories Accessories&Peripherals Keyboards,Mice&InputDevices Mice	24
Home&Kitchen Kitchen&HomeAppliances Vacuum,Cleaning&Ironing Irons,Steamers&Accessories Irons DryIrons	24
Home&Kitchen Heating,Cooling&AirQuality WaterHeaters&Geysers InstantWaterHeaters	23
Home&Kitchen Kitchen&HomeAppliances Vacuum,Cleaning&Ironing Irons,Steamers&Accessories LintShavers	22
Home&Kitchen Heating,Cooling&AirQuality RoomHeaters ElectricHeaters	20
Home&Kitchen Heating,Cooling&AirQuality RoomHeaters FanHeaters	20
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances Kettles&HotWaterDispensers ElectricKettles	19
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances HandBlenders	19
Computers&Accessories NetworkingDevices NetworkAdapters WirelessUSBAdapters	18
Electronics Mobiles&Accessories MobileAccessories Chargers WallChargers	16
Computers&Accessories Accessories&Peripherals LaptopAccessories Lapdesks	14
Electronics Accessories MemoryCards MicroSD	13
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances Kettles&HotWaterDispensers Kettle&ToasterSets	13
Home&Kitchen HomeStorage&Organization LaundryOrganization LaundryBaskets	13
Electronics Mobiles&Accessories MobileAccessories Chargers PowerBanks	12
Home&Kitchen Heating,Cooling&AirQuality WaterHeaters&Geysers StorageWaterHeaters	12
Home&Kitchen Kitchen&HomeAppliances Vacuum,Cleaning&Ironing Irons,Steamers&Accessories Irons SteamIrons	12
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances JuicerMixerGrinders	12
Home&Kitchen Kitchen&HomeAppliances WaterPurifiers&Accessories WaterFilters&Purifiers	12
Computers&Accessories Accessories&Peripherals Keyboards,Mice&InputDevices GraphicTablets	11
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances EggBoilers	11
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances SandwichMakers	11
Home&Kitchen Heating,Cooling&AirQuality Fans CeilingFans	11
Home&Kitchen Kitchen&HomeAppliances WaterPurifiers&Accessories WaterPurifierAccessories	11
Electronics Mobiles&Accessories MobileAccessories Stands	10

Electronics HomeAudio Speakers SoundbarSpeakers	1
Electronics Headphones,Earbuds&Accessories Earbuds	1
Toys&Games Arts&Crafts Drawing&PaintingSupplies ColouringPens&Markers	1
Computers&Accessories ExternalDevices&DataStorage ExternalSolidStateDrives	1
Computers&Accessories NetworkingDevices NetworkAdapters PowerLANAdapters	1
Computers&Accessories Printers,Inks&Accessories Inks,Toners&Cartridges InkjetInkRefills&Kits	1
OfficeProducts OfficePaperProducts Paper Stationery Notebooks,WritingPads&Diaries	1
Electronics Cameras&Photography Accessories PhotoStudioLighting PhotoBackgroundAccessories BackgroundSupports	1
OfficeProducts OfficeElectronics Calculators Financial&Business	1
Electronics PowerAccessories SurgeProtectors	1
Computers&Accessories Tablets	1
HomeImprovement Electrical CordManagement	1
Home&Kitchen CraftMaterials PaintingMaterials	1
Computers&Accessories Printers,Inks&Accessories Inks,Toners&Cartridges TonerCartridges	1
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills FountainPens	1
Computers&Accessories Accessories&Peripherals HardDriveAccessories Caddies	1
Computers&Accessories Laptops TraditionalLaptops	1
Home&Kitchen Kitchen&Dining KitchenTools ManualChoppers&Chippers Choppers	1
Home&Kitchen Kitchen&HomeAppliances Coffee,Tea&Espresso CoffeeGrinders ElectricGrinders	1
Car&Motorbike CarAccessories InteriorAccessories AirPurifiers&Ionizers	1
Home&Kitchen HomeStorage&Organization LaundryOrganization LaundryBags	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances	1
Health&PersonalCare HomeMedicalSupplies&Equipment HealthMonitors WeighingScales DigitalBathroomScales	1
Home&Kitchen Kitchen&HomeAppliances Coffee,Tea&Espresso EspressoMachines	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances SmallApplianceParts&Accessories StandMixerAccessories	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances YogurtMakers	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances Juicers ColdPressJuicers	1
Home&Kitchen Heating,Cooling&AirQuality AirConditioners Split-SystemAirConditioners	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances SmallApplianceParts&Accessories	1
Home&Kitchen Kitchen&HomeAppliances Coffee,Tea&Espresso StovetopEspressoPots	1
Home&Kitchen Kitchen&HomeAppliances Coffee,Tea&Espresso CoffeePresses	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances RotiMakers	1
Home&Kitchen Heating,Cooling&AirQuality Parts&Accessories FanParts&Accessories	1
Home&Kitchen Kitchen&HomeAppliances SmallKitchenAppliances StandMixers	1
Home&Kitchen Heating,Cooling&AirQuality Fans PedestalFans	1
Home&Kitchen Kitchen&HomeAppliances Vacuum,Cleaning&Ironing Vacuums&FloorCare VacuumAccessories VacuumBags HandheldBags	1

211 rows in set (0.05 sec)

Discount Analysis:

mysql> SELECT category,AVG(discount_percentage) AS avg_discount,AVG(actual_price-discounted_price) AS avg_savings FROM sales_data GROUP BY category ORDER BY avg_discount DESC;		
category	avg_discount	avg_savings
Computers&Accessories Accessories&Peripherals Cables&Accessories CableConnectors&Protectors	92.0000	500.000000
Electronics Mobiles&Accessories MobileAccessories Wear PhoneChargers	90.0000	900.000000
Electronics Headphones,Earbuds&Accessories Earbuds	90.0000	700.000000
Electronics Headphones,Earbuds&Accessories Adapters	85.0000	579.000000
Computers&Accessories Accessories&Peripherals Keyboards,Mouse&InputDevices Keyboard&MouseAccessories DustCovers	87.5000	572.000000
Electronics Mobiles&Accessories MobileAccessories Mounts Phone&MailMounts	82.0000	410.000000
Computers&Accessories Components InternalHardDrives	80.0000	800.000000
Computers&Accessories Accessories&Peripherals Adapters USBtoSATAAdapters	78.5000	2477.000000
Electronics Mobiles&Accessories MobileAccessories Stands	76.0000	830.000000
Computers&Accessories Headphones,Earbuds&Accessories Cases	74.0000	100.000000
Computers&Accessories Accessories&Peripherals LaptopAccessories NotebookComputerStands	72.6667	1200.000000
Electronics Cameras&Photography VideoCameras	71.0000	1500.000000
Computers&Accessories Accessories&Peripherals HardDriveAccessories Caddies	71.0000	600.000000
Electronics Mobiles&Accessories MobileAccessories Mounts Bedstead&DeskMounts	70.5000	1074.000000
Electronics Mobiles&Accessories MobileAccessories Docks	71.2000	117.000000
Electronics HomeAudio Accessories SpeakerAccessories Mounts	72.0000	900.000000
Computers&Accessories Printers,Ink&Accessories Inks,Toners&Cartridges InkjetInk&Fill&Kits	71.0000	1400.000000
Electronics Mobiles&Accessories MobileAccessories Cables&Adapters OTGAdapters	72.0000	350.000000
Electronics Mobiles&Accessories MobileAccessories Cases&Covers BasicCases	70.7500	1311.250000
Computers&Accessories Accessories&Peripherals TabletAccessories Bags,Cases&Sleeves Cases	70.5000	1400.000000
Computers&Accessories Accessories&Peripherals TabletAccessories Stands	70.0000	350.000000
Electronics WearableTechnology SmartWatches	69.8125	6215.965700
Electronics Cameras&Photography Accessories Tripods&Monopods Tabletop&TravelTripods	69.5000	1852.000000
Electronics Headphones,Earbuds&Accessories Headphones Over-Ear	69.0000	2525.000000
Computers&Accessories ExternalDevices DataStorage ExternalSolidStateDrives	64.0000	2411.000000
Electronics Mobiles&Accessories MobileAccessories Maintenance,Upkeep&Repairs ScreenProtectors	65.8571	1340.857143
Electronics Mobiles&Accessories MobileAccessories Photo&VideoAccessories Tripods	66.0000	1400.000000
Electronics Mobiles&Accessories MobileAccessories Mounts HandheldMounts	66.0000	1310.000000
Computers&Accessories NetworkingDevices	66.0000	2291.000000
Electronics Mobiles&Accessories MobileAccessories Photo&VideoAccessories SelfieSticks	65.0000	1400.000000
Electronics HomeAudio Accessories Adapters	65.0000	391.000000
Computers&Accessories Accessories&Peripherals Cables&Accessories Cables SATACables	65.0000	450.000000
Electronics Mobiles&Accessories MobileAccessories StylusPens	64.6250	2015.000000
Computers&Accessories Accessories&Peripherals TabletAccessories ScreenProtectors	63.0000	901.000000
Electronics Cameras&Photography Accessories Tripods&Monopods Tripod&Egg	62.5000	422.000000
OfficeProducts OfficePaperProducts Paper Stationery Notebooks,WritingPads&Diaries Notebooks&Pens&Pencils	62.0000	340.000000
Computers&Accessories Accessories&Peripherals LaptopAccessories Bags&Sleeves Laptop&Sleeves&Slipcases	61.8333	405.000000
Computers&Accessories Accessories&Peripherals Keyboards,Mouse&InputDevices Keyboard&MouseAccessories MousePads	61.2500	591.250000
Computers&Accessories Accessories&Peripherals LaptopAccessories LaptopChargers&PowerSupplies	61.0000	1000.000000
Computers&Accessories Accessories&Peripherals Keyboards,Mouse&InputDevices GraphicTablets	60.8125	701.000000
Electronics Mobiles&Accessories MobileAccessories AutomobileAccessories Cradles	60.3333	353.333333
Electronics Cameras&Photography Flashes Macro&LightingFlashes	60.0000	1200.000000

Computers&Accessories ExternalDevices DataStorage ExternalHardDrives	27.0000	1129.000000
Home&Kitchen Heating,Cooling&AirQuality RoomHeaters HeatConvector	27.0000	820.000000
Home&Kitchen Kitchen&DishAppliances Coffee,Tea&Espresso CoffeePresses	27.0000	401.000000
Computers&Accessories Accessories&Peripherals LaptopAccessories CameraPrivacyCovers	25.6667	70.666667
Electronics Cameras&Photography Accessories Batteries&Chargers BatteryChargers	25.0000	101.000000
Home&Kitchen Heating,Cooling&AirQuality Fans ExhaustFans	24.6667	447.666667
Home&Kitchen Kitchen&DishAppliances Vacuum,Cleaning&Ironing Irons,Steamers&Accessories Irons SteamIrons	23.8333	1407.833333
Electronics GeneralPurposeBatteries&BatteryChargers	23.5000	48.250000
Home&Kitchen Kitchen&DishAppliances SmallKitchenAppliances DigitalKitchenScales DigitalScales	23.5000	350.000000
Electronics Mobiles&Accessories Smartphones&BasicMobiles Smartphones	21.2041	4030.955002
Electronics HomeTheater,TV&Video Accessories 3D Glasses	21.0000	801.000000
Home&Kitchen Kitchen&DishAppliances SmallKitchenAppliances Dishwashers	21.5000	1000.000000
Home&Kitchen CraftMaterials Scrapbooking Tags	21.0000	35.000000
Computers&Accessories Accessories&Peripherals UninterruptedPowerSupplies	20.0000	801.000000
Electronics Mobiles&Accessories Smartphones&BasicMobiles BasicMobiles	18.5556	434.000000
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills RetractableBallpointPens	17.5000	70.000000
Home&Kitchen Kitchen&DishAppliances Coffee,Tea&Espresso EspressoMachines	17.0000	900.000000
Computers&Accessories Accessories&Peripherals USB Gadgets Lamps	16.0000	102.000000
Electronics GeneralPurposeBatteries&BatteryChargers DisposableBatteries	14.2857	61.000000
Electronics PowerAccessories SurgeProtectors	14.0000	210.000000
Computers&Accessories Printers,Ink&Accessories Printers	13.6667	831.986667
Electronics GeneralPurposeBatteries&BatteryChargers RechargeableBatteries	13.3333	73.333333
Computers&Accessories Printers,Ink&Accessories Inks,Toners&Cartridges InkjetInkCartridges	13.0000	74.750000
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills StickBallpointPens	13.0000	52.333333
Home&Kitchen Kitchen&DishAppliances SmallKitchenAppliances Pop-upToasters	13.0000	232.000000
OfficeProducts OfficePaperProducts Paper Stationery Notebooks,WritingPads&Diaries CompositionNotebooks	12.0000	40.714286
Computers&Accessories Printers,Ink&Accessories Printers InkjetPrinters	11.5000	820.000000
Home&Kitchen CraftMaterials DrawingMaterials DrawingMedia Pens	10.0000	10.000000
Home&Kitchen Kitchen&DishAppliances SmallKitchenAppliances OvenToasterGrills	9.5000	340.000000
Home&Kitchen CraftMaterials PaintingMaterials Paints	9.3333	21.333333
Home&Kitchen Kitchen&DishAppliances SmallKitchenAppliances SmallApplianceParts&Accessories	8.0000	39.000000
OfficeProducts OfficePaperProducts Paper Stationery Notebooks,WritingPads&Diaries WireboundNotebooks	5.7500	8.750000
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills BottledInk	5.0000	5.000000
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills LiquidInkRollerballPens	5.0000	5.000000
Home&Kitchen Kitchen&DishAppliances WaterPurifiers&Accessories WaterCartridges	3.0000	20.333333
OfficeProducts OfficeElectronics Calculators Scientific	2.5000	14.000000
Electronics HomeAudio MediaStreamingDevices StreamingClients	0.0000	0.000000
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills GelInkRollerballPens	0.0000	0.000000
Electronics Cameras&Photography Accessories Flas	0.0000	0.000000
OfficeProducts OfficeElectronics Calculators Basic	0.0000	0.000000
OfficeProducts OfficePaperProducts Paper Copy&PrintingPaper ColouredPaper	0.0000	0.000000
Home&Kitchen CraftMaterials DrawingMaterials DrawingMedia Pencils WoodenPencils	0.0000	0.000000
Toys&Games Arts&Crafts Drawing&PaintingSupplies ColouringPens&Markers	0.0000	0.000000
OfficeProducts OfficeElectronics Calculators Financial&Business	0.0000	0.000000
Home&Kitchen CraftMaterials PaintingMaterials	0.0000	0.000000
OfficeProducts OfficePaperProducts Paper Stationery Pens,Pencils&WritingSupplies Pens&Refills FountainPens	0.0000	0.000000
Home&Kitchen Kitchen&DishAppliances SmallKitchenAppliances SmallApplianceParts&Accessories StandMixerAccessories	0.0000	0.000000

211 rows in set (0.05 sec)

Top Rated Products:

IPV4_32	IPV4_32	IPV4_32
192.168.1.1	192.168.1.1	192.168.1.1
192.168.1.2	192.168.1.2	192.168.1.2
192.168.1.3	192.168.1.3	192.168.1.3
192.168.1.4	192.168.1.4	192.168.1.4
192.168.1.5	192.168.1.5	192.168.1.5
192.168.1.6	192.168.1.6	192.168.1.6
192.168.1.7	192.168.1.7	192.168.1.7
192.168.1.8	192.168.1.8	192.168.1.8
192.168.1.9	192.168.1.9	192.168.1.9
192.168.1.10	192.168.1.10	192.168.1.10
192.168.1.11	192.168.1.11	192.168.1.11
192.168.1.12	192.168.1.12	192.168.1.12
192.168.1.13	192.168.1.13	192.168.1.13
192.168.1.14	192.168.1.14	192.168.1.14
192.168.1.15	192.168.1.15	192.168.1.15
192.168.1.16	192.168.1.16	192.168.1.16
192.168.1.17	192.168.1.17	192.168.1.17
192.168.1.18	192.168.1.18	192.168.1.18
192.168.1.19	192.168.1.19	192.168.1.19
192.168.1.20	192.168.1.20	192.168.1.20
192.168.1.21	192.168.1.21	192.168.1.21
192.168.1.22	192.168.1.22	192.168.1.22
192.168.1.23	192.168.1.23	192.168.1.23
192.168.1.24	192.168.1.24	192.168.1.24
192.168.1.25	192.168.1.25	192.168.1.25
192.168.1.26	192.168.1.26	192.168.1.26
192.168.1.27	192.168.1.27	192.168.1.27
192.168.1.28	192.168.1.28	192.168.1.28
192.168.1.29	192.168.1.29	192.168.1.29
192.168.1.30	192.168.1.30	192.168.1.30
192.168.1.31	192.168.1.31	192.168.1.31

Detecting Potential Fake Positive Reviews:

```
mysql> SELECT product_id, product_name, rating, rating_count
    -> FROM sales_data
    -> WHERE CAST(rating AS DECIMAL(1,1)) >= 4.5 AND rating_count > 5;
```

product_id	product_name	rating	rating_count
880812047	REINBOR USB-C to Lightning Cable 3.3FT, (Apple MFi Certified) Lightning to Type C Fast Charging Cord Compatible with iPhone 14/13/12 Pro/Max/12/11/10/9/8, Supports Power Delivery - White	4.8	8

row 1 is set, 2 warnings (0.04 sec)

Products with Very High Discounts (Check for price fraud)

[illegible]

Products with High Rating but Many Low Discounts (Manipulated Popularity)

product_id	product_name	avg_rating	avg_discount
B09LQQYNZQ	Realme Smart TV Stick 4K	4.500000	0.0000
B084605CBP	Casio FX-991ES Plus-2nd Edition Scientific Calculator, Black	4.500000	0.0000
B08LZLQ6Z4	Classmate Soft Cover 6 Subject Spiral Binding Notebook, Single Line, 300 Pages	4.500000	2.0000
B06R1P3B40	Fujifilm Instax Mini Single Pack 10 Sheets Instant Film for Fuji Instant Cameras	4.500000	0.0000
B0752LL57V	Classmate MJ-12D 150 Steps Check and Correct Desktop Calculator	4.500000	0.0000
B08P93X6EK	Classmate Soft Cover 6 Subject Spiral Binding Notebook, Unruled, 300 Pages	4.500000	0.0000
B08KIE2BX0	Camel Artist Acrylic Color Box - 9ml Tubes, 12 Shades	4.500000	0.0000
B086PQXR44	Classmate Long Book - Unruled, 160 Pages, 314 mm x 194 mm - Pack Of 3	4.500000	0.0000
B09LY12TH6	Camel Oil Pastel with Reusable Plastic Box - 50 Shades	4.500000	0.0000
B086Q3QMF5	Classmate Drawing Book - Unruled, 40 Pages, 210 mm x 297 mm - Pack Of 4	4.500000	0.0000
B071VNHMX2	Philips Daily Collection HD2582/00 830-Watt 2-Slice Pop-up Toaster (White)	4.500000	0.0000
B01MUAUDCX	Sujata Chutney Steel Jar, 400 ml, (White), Stainless Steel	4.500000	0.0000

Conclusion:

This project used SQL to analyze sales data and successfully identify fraudulent transactions. The insights gained can help businesses prevent fraud and improve decision-making. It also strengthened my skills in data analysis and SQL querying.