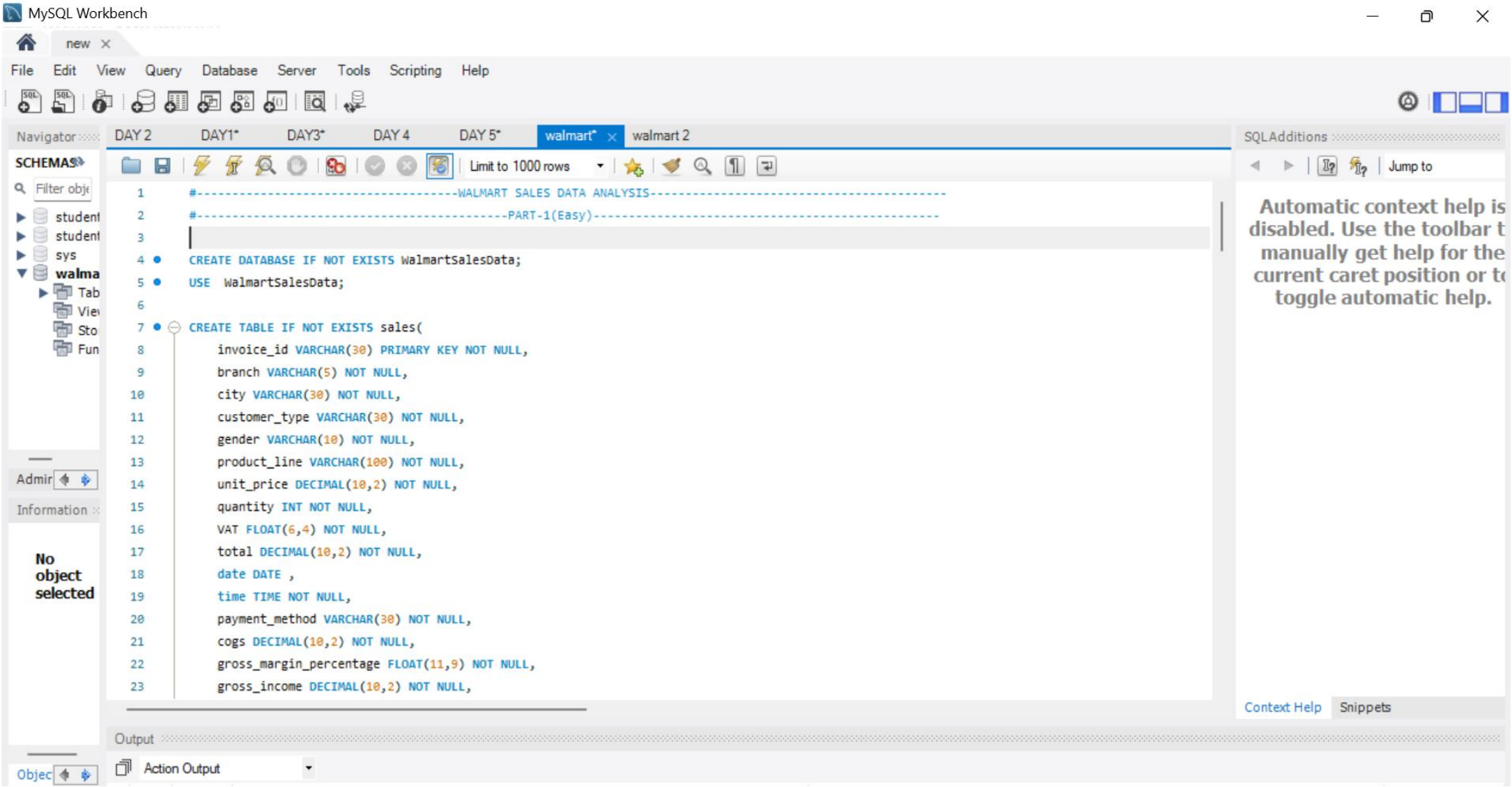
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Limit to 1000 rows
#----------WALMART SALES DATA ANALYSIS----------
#----------PART-1(Easy)----------
CREATE DATABASE IF NOT EXISTS WalmartSalesData;
USE WalmartSalesData;
CREATE TABLE IF NOT EXISTS sales(
invoice_id VARCHAR(30) PRIMARY KEY NOT NULL,
branch VARCHAR(5) NOT NULL,
city VARCHAR(30) NOT NULL,
customer_type VARCHAR(30) NOT NULL,
gender VARCHAR(10) NOT NULL,
product_line VARCHAR(100) NOT NULL,
unit_price DECIMAL(10,2) NOT NULL,
quantity INT NOT NULL,
VAT FLOAT(6,4) NOT NULL,
total DECIMAL(10,2) NOT NULL,
date DATE ,
time TIME NOT NULL,
payment_method VARCHAR(30) NOT NULL,
cogs DECIMAL(10,2) NOT NULL,
gross_margin_percentage FLOAT(11,9) NOT NULL,
gross_income DECIMAL(10,2) NOT NULL,
SQLAdditions
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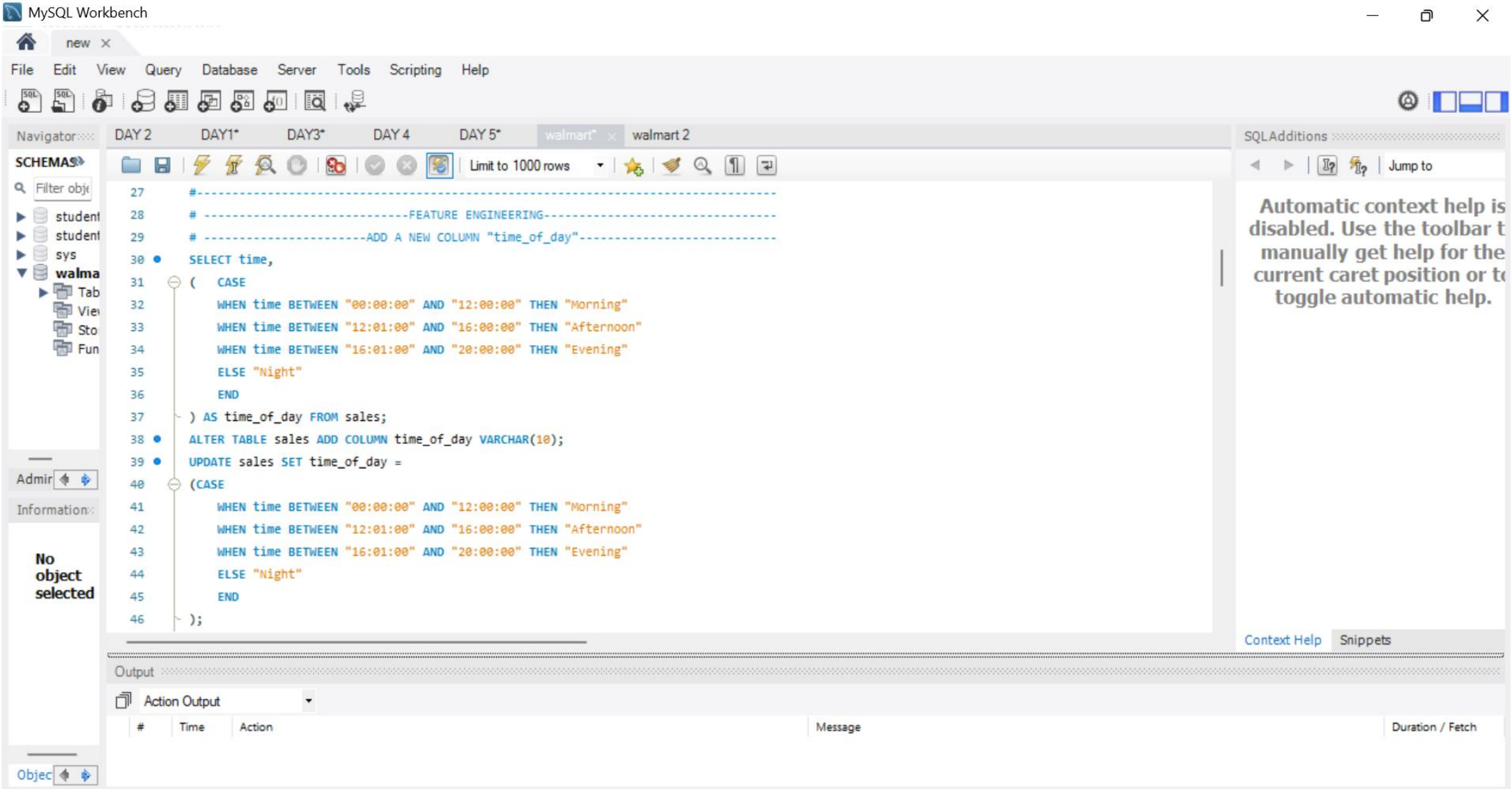
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Limit to 1000 rows
#----------
----------FEATURE ENGINEERING----------
----------ADD A NEW COLUMN "time_of_day"----------
SELECT time,
(CASE
WHEN time BETWEEN "00:00:00" AND "12:00:00" THEN "Morning"
WHEN time BETWEEN "12:01:00" AND "16:00:00" THEN "Afternoon"
WHEN time BETWEEN "16:01:00" AND "20:00:00" THEN "Evening"
ELSE "Night"
END
) AS time_of_day FROM sales;
ALTER TABLE sales ADD COLUMN time_of_day VARCHAR(10);
UPDATE sales SET time_of_day =
(CASE
WHEN time BETWEEN "00:00:00" AND "12:00:00" THEN "Morning"
WHEN time BETWEEN "12:01:00" AND "16:00:00" THEN "Afternoon"
WHEN time BETWEEN "16:01:00" AND "20:00:00" THEN "Evening"
ELSE "Night"
END
);
SQLAdditions
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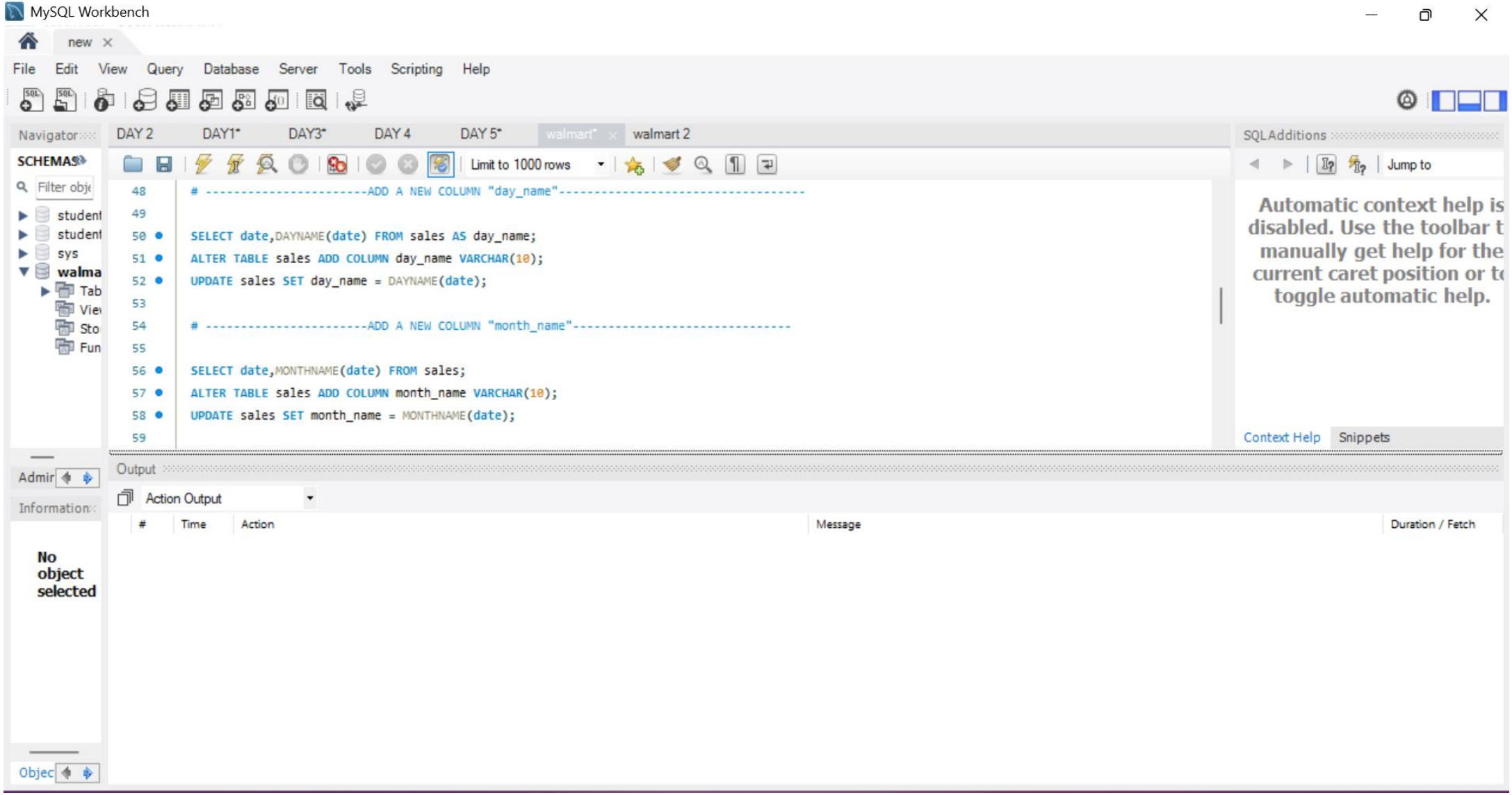
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Limit to 1000 rows
48 # ----------ADD A NEW COLUMN "day_name"----------
49
50 SELECT date,DAYNAME(date) FROM sales AS day_name;
51 ALTER TABLE sales ADD COLUMN day_name VARCHAR(10);
52 UPDATE sales SET day_name = DAYNAME(date);
53
54 # ----------ADD A NEW COLUMN "month_name"----------
55
56 SELECT date,MONTHNAME(date) FROM sales;
57 ALTER TABLE sales ADD COLUMN month_name VARCHAR(10);
58 UPDATE sales SET month_name = MONTHNAME(date);
59
SQLAdditions
Jump to
Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.
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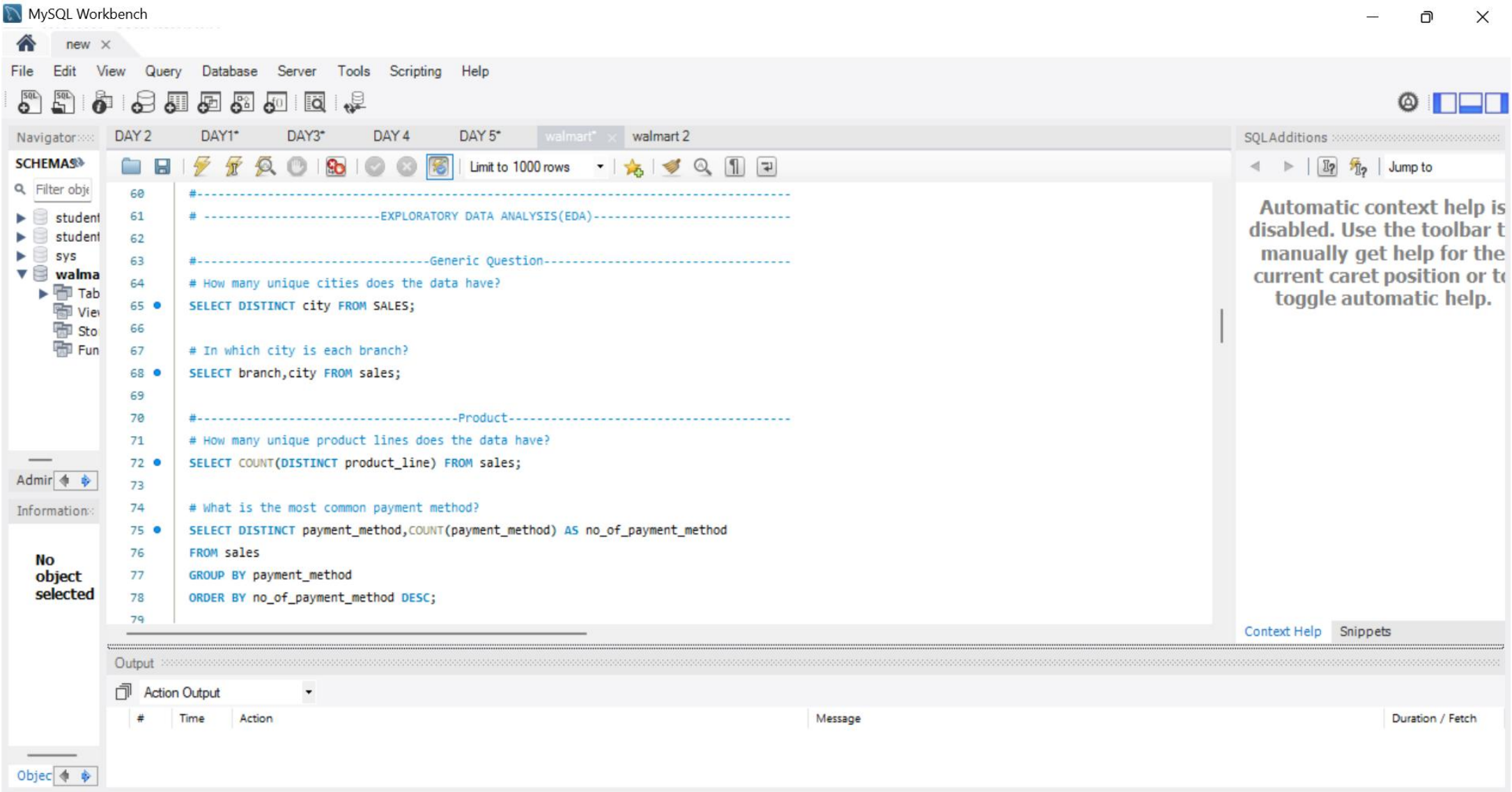
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Limit to 1000 rows
#----------EXPLORATORY DATA ANALYSIS(EDA)----------
#----------Generic Question----------
How many unique cities does the data have?
SELECT DISTINCT city FROM SALES;
In which city is each branch?
SELECT branch,city FROM sales;
#----------Product----------
How many unique product lines does the data have?
SELECT COUNT(DISTINCT product_line) FROM sales;
What is the most common payment method?
SELECT DISTINCT payment_method,COUNT(payment_method) AS no_of_payment_method
FROM sales
GROUP BY payment_method
ORDER BY no_of_payment_method DESC;
SQLAdditions
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Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or t toggle automatic help.
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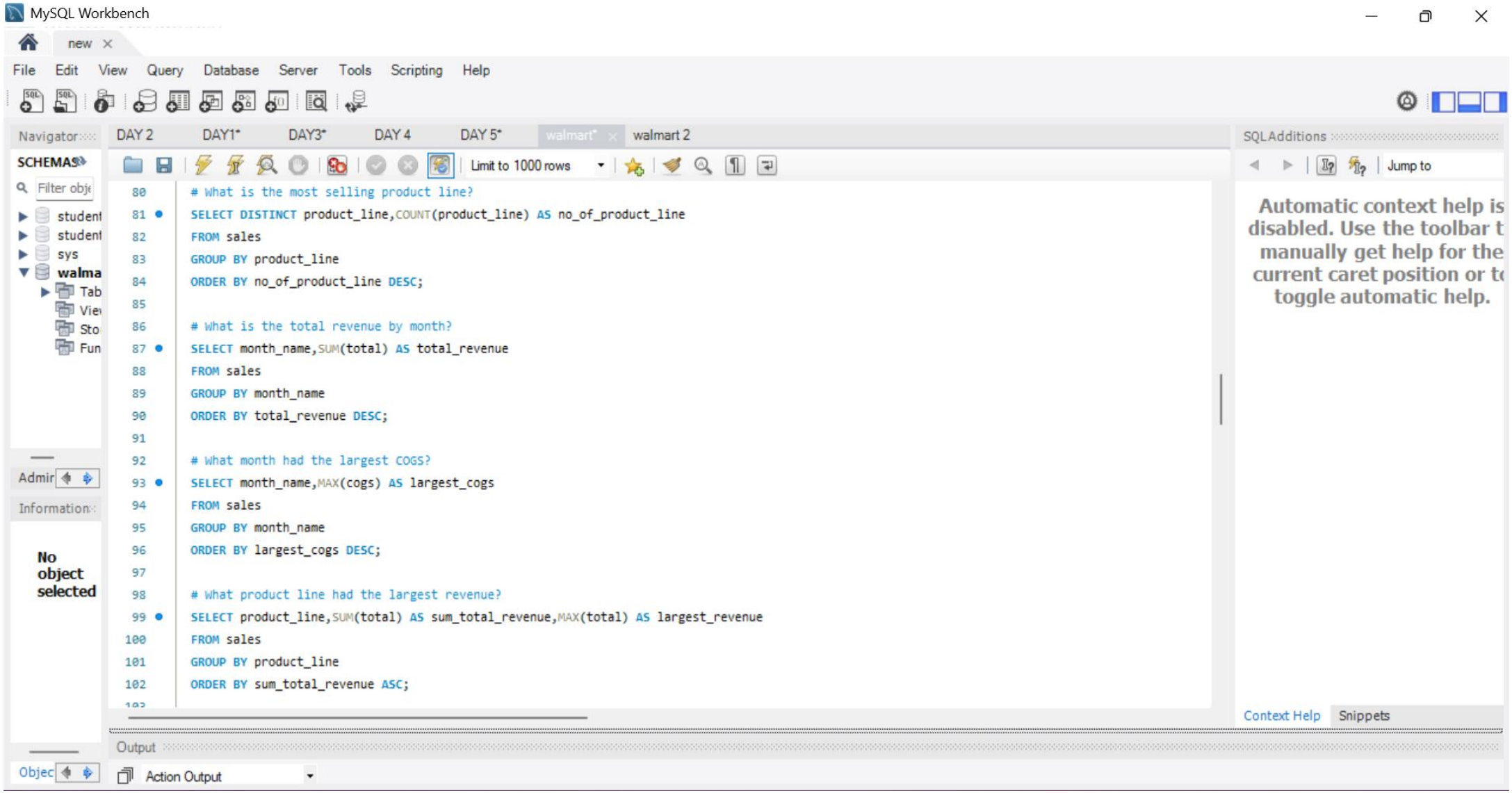
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Limit to 1000 rows
80 # What is the most selling product line?
81 SELECT DISTINCT product_line,COUNT(product_line) AS no_of_product_line
82 FROM sales
83 GROUP BY product_line
84 ORDER BY no_of_product_line DESC;
85
86 # What is the total revenue by month?
87 SELECT month_name,SUM(total) AS total_revenue
88 FROM sales
89 GROUP BY month_name
90 ORDER BY total_revenue DESC;
91
92 # What month had the largest COGS?
93 SELECT month_name,MAX(cogs) AS largest_cogs
94 FROM sales
95 GROUP BY month_name
96 ORDER BY largest_cogs DESC;
97
98 # What product line had the largest revenue?
99 SELECT product_line,SUM(total) AS sum_total_revenue,MAX(total) AS largest_revenue
100 FROM sales
101 GROUP BY product_line
102 ORDER BY sum_total_revenue ASC;
SQLAdditions
Jump to
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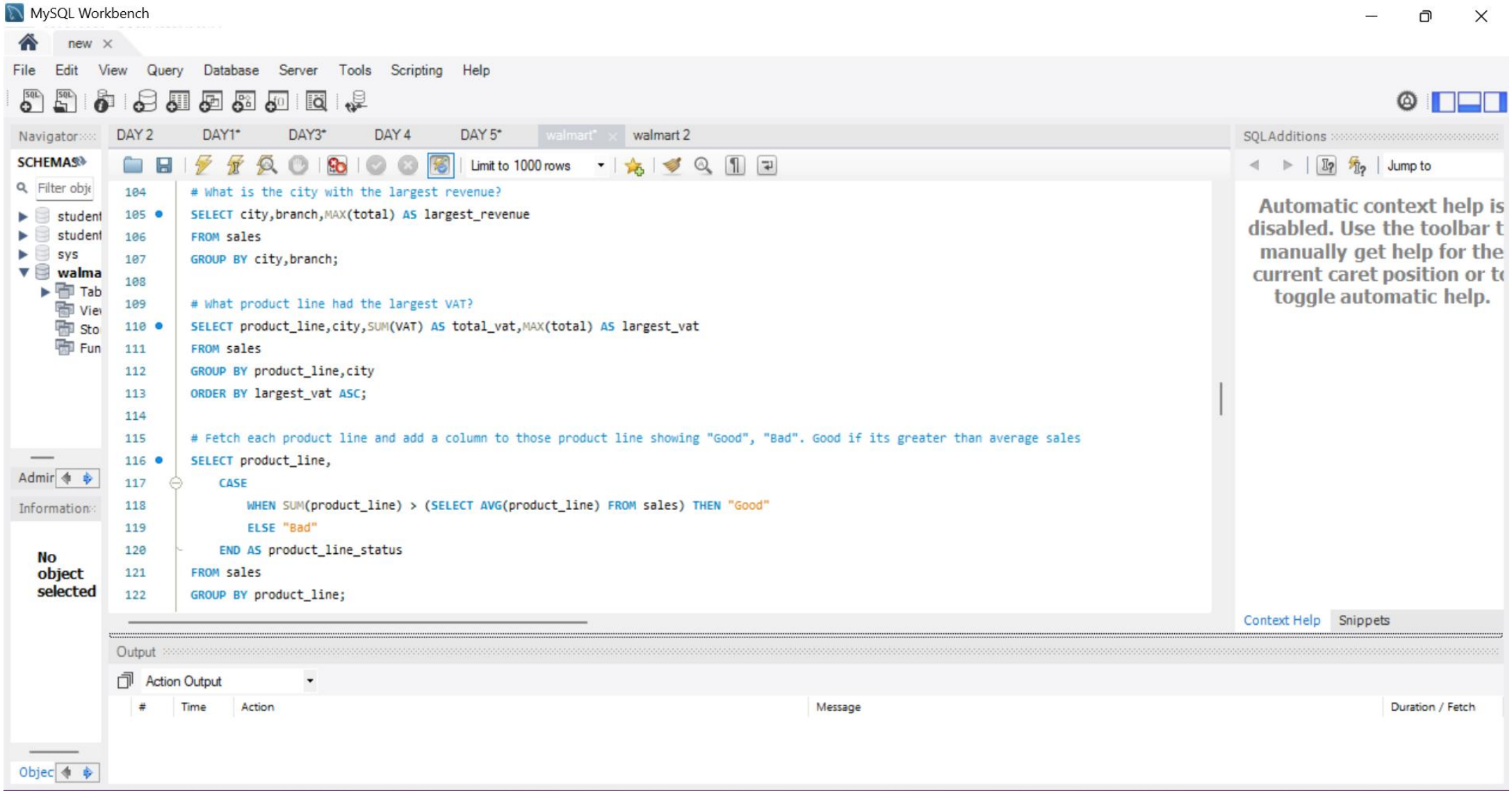
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Limit to 1000 rows
104 # What is the city with the largest revenue?
105 SELECT city,branch,MAX(total) AS largest_revenue
106 FROM sales
107 GROUP BY city,branch;
108
109 # What product line had the largest VAT?
110 SELECT product_line,city,SUM(VAT) AS total_vat,MAX(total) AS largest_vat
111 FROM sales
112 GROUP BY product_line,city
113 ORDER BY largest_vat ASC;
114
115 # Fetch each product line and add a column to those product line showing "Good", "Bad". Good if its greater than average sales
116 SELECT product_line,
117 CASE
118 WHEN SUM(product_line) > (SELECT AVG(product_line) FROM sales) THEN "Good"
119 ELSE "Bad"
120 END AS product_line_status
121 FROM sales
122 GROUP BY product_line;
SQLAdditions
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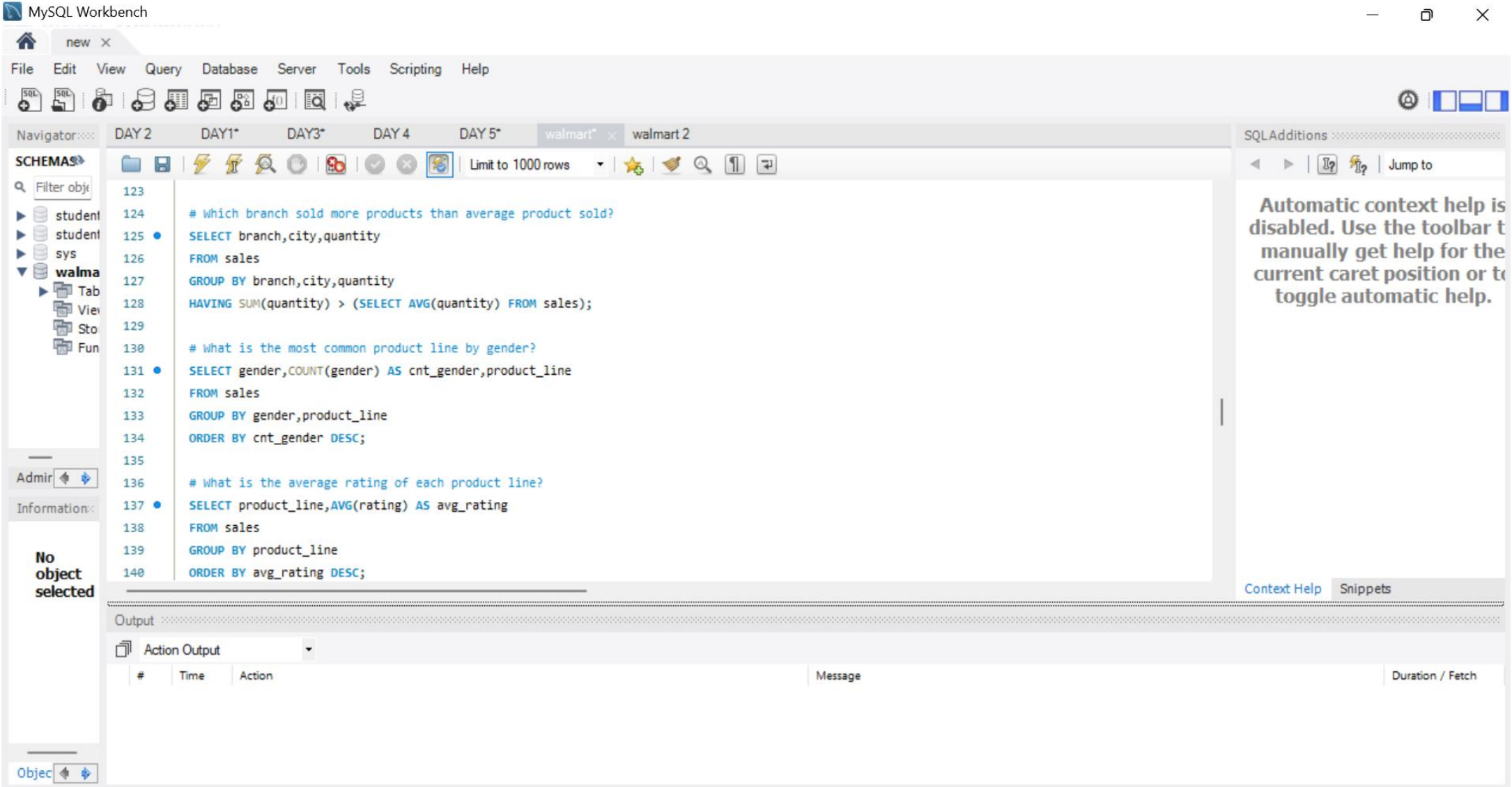
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Limit to 1000 rows
123
124 # Which branch sold more products than average product sold?
125 SELECT branch,city,quantity
126 FROM sales
127 GROUP BY branch,city,quantity
128 HAVING SUM(quantity) > (SELECT AVG(quantity) FROM sales);
129
130 # What is the most common product line by gender?
131 SELECT gender,COUNT(gender) AS cnt_gender,product_line
132 FROM sales
133 GROUP BY gender,product_line
134 ORDER BY cnt_gender DESC;
135
136 # What is the average rating of each product line?
137 SELECT product_line,AVG(rating) AS avg_rating
138 FROM sales
139 GROUP BY product_line
140 ORDER BY avg_rating DESC;
SQLAdditions
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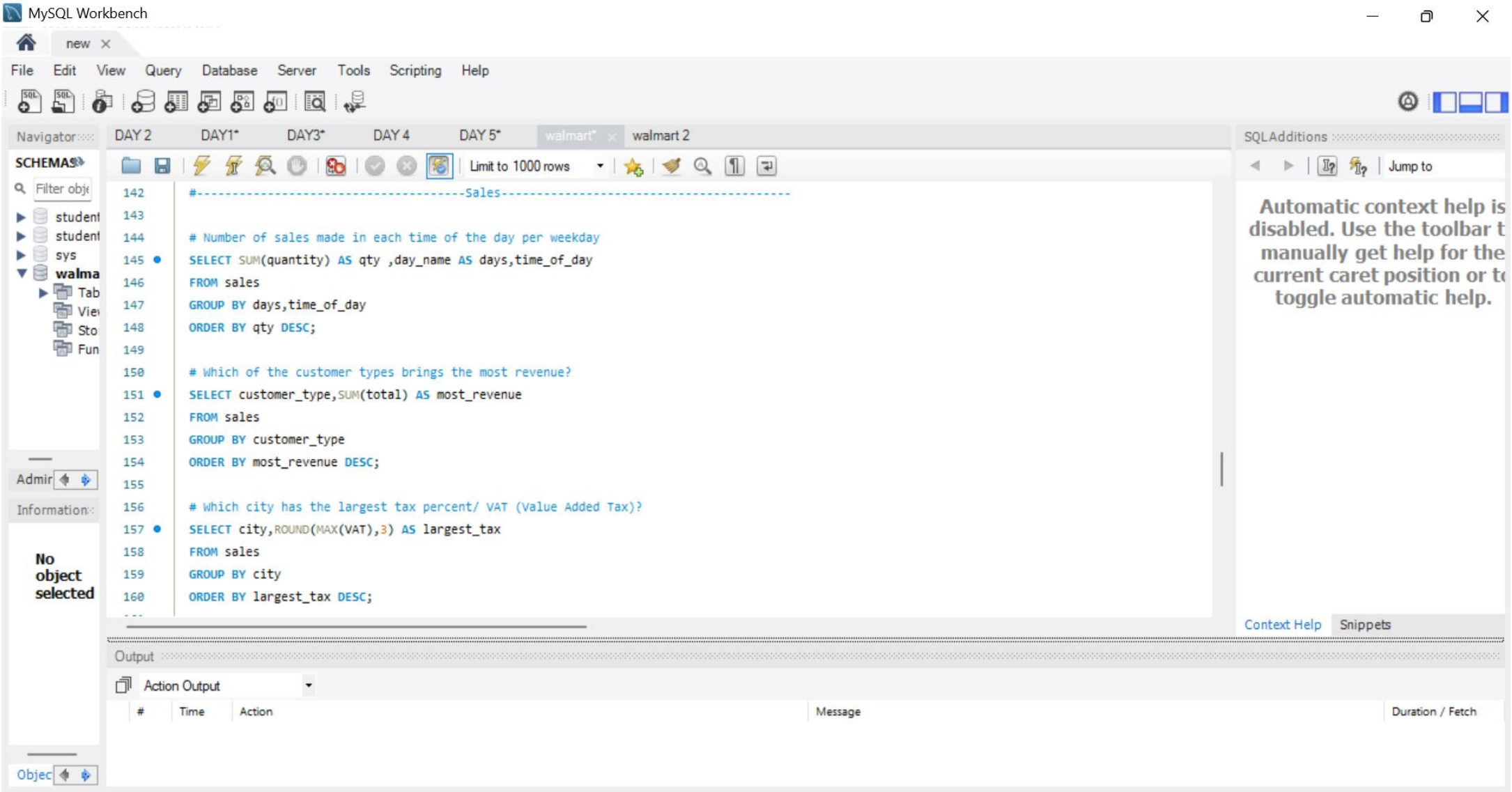
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Limit to 1000 rows
142 #----------Sales----------
143
144 # Number of sales made in each time of the day per weekday
145 SELECT SUM(quantity) AS qty ,day_name AS days,time_of_day
146 FROM sales
147 GROUP BY days,time_of_day
148 ORDER BY qty DESC;
149
150 # Which of the customer types brings the most revenue?
151 SELECT customer_type,SUM(total) AS most_revenue
152 FROM sales
153 GROUP BY customer_type
154 ORDER BY most_revenue DESC;
155
156 # Which city has the largest tax percent/ VAT (Value Added Tax)?
157 SELECT city,ROUND(MAX(VAT),3) AS largest_tax
158 FROM sales
159 GROUP BY city
160 ORDER BY largest_tax DESC;
SQLAdditions
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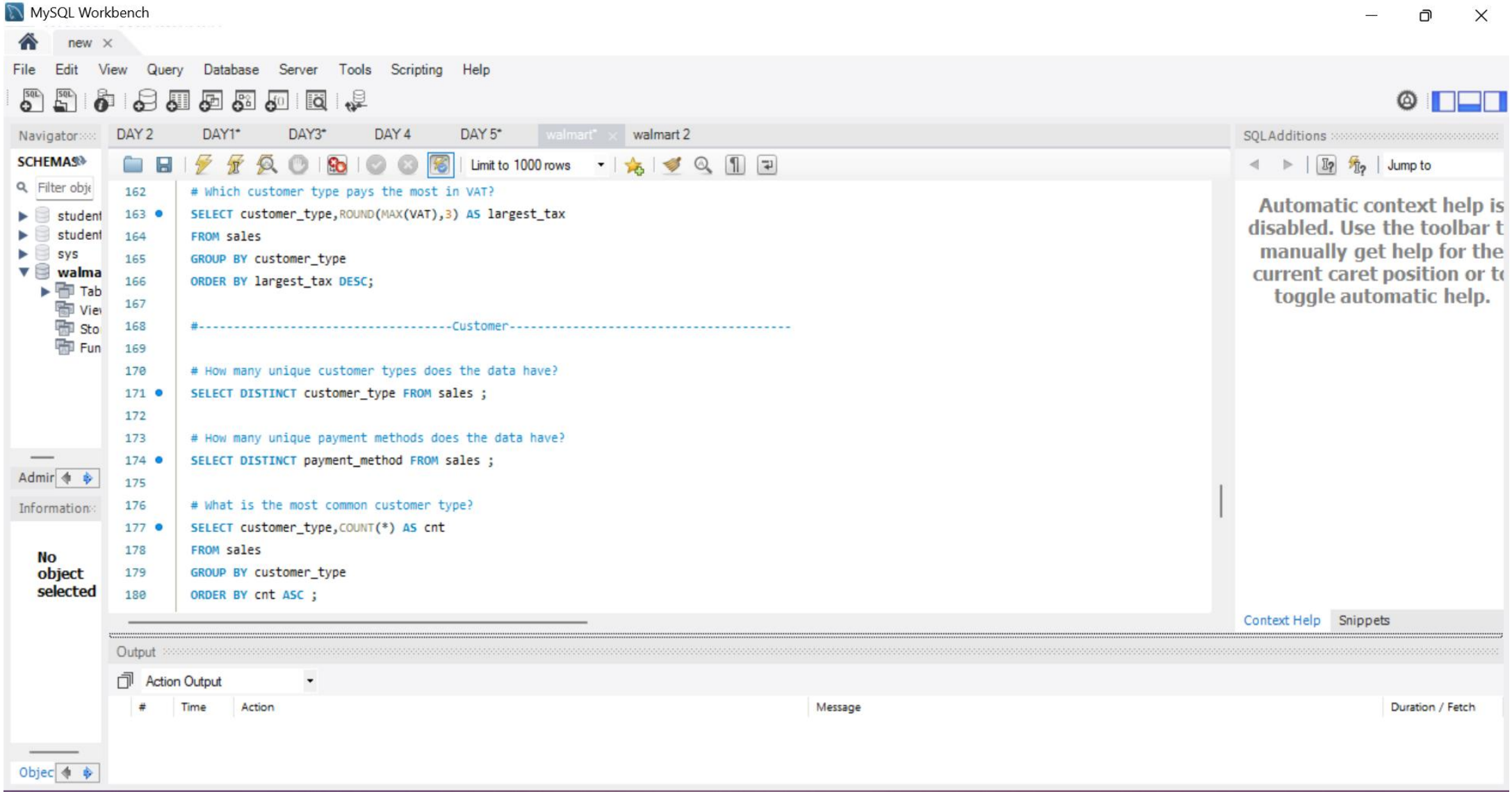
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Limit to 1000 rows
162 # Which customer type pays the most in VAT?
163 SELECT customer_type,ROUND(MAX(VAT),3) AS largest_tax
164 FROM sales
165 GROUP BY customer_type
166 ORDER BY largest_tax DESC;
167
168 #----------Customer----------
169
170 # How many unique customer types does the data have?
171 SELECT DISTINCT customer_type FROM sales ;
172
173 # How many unique payment methods does the data have?
174 SELECT DISTINCT payment_method FROM sales ;
175
176 # What is the most common customer type?
177 SELECT customer_type,COUNT(*) AS cnt
178 FROM sales
179 GROUP BY customer_type
180 ORDER BY cnt ASC ;
SQLAdditions
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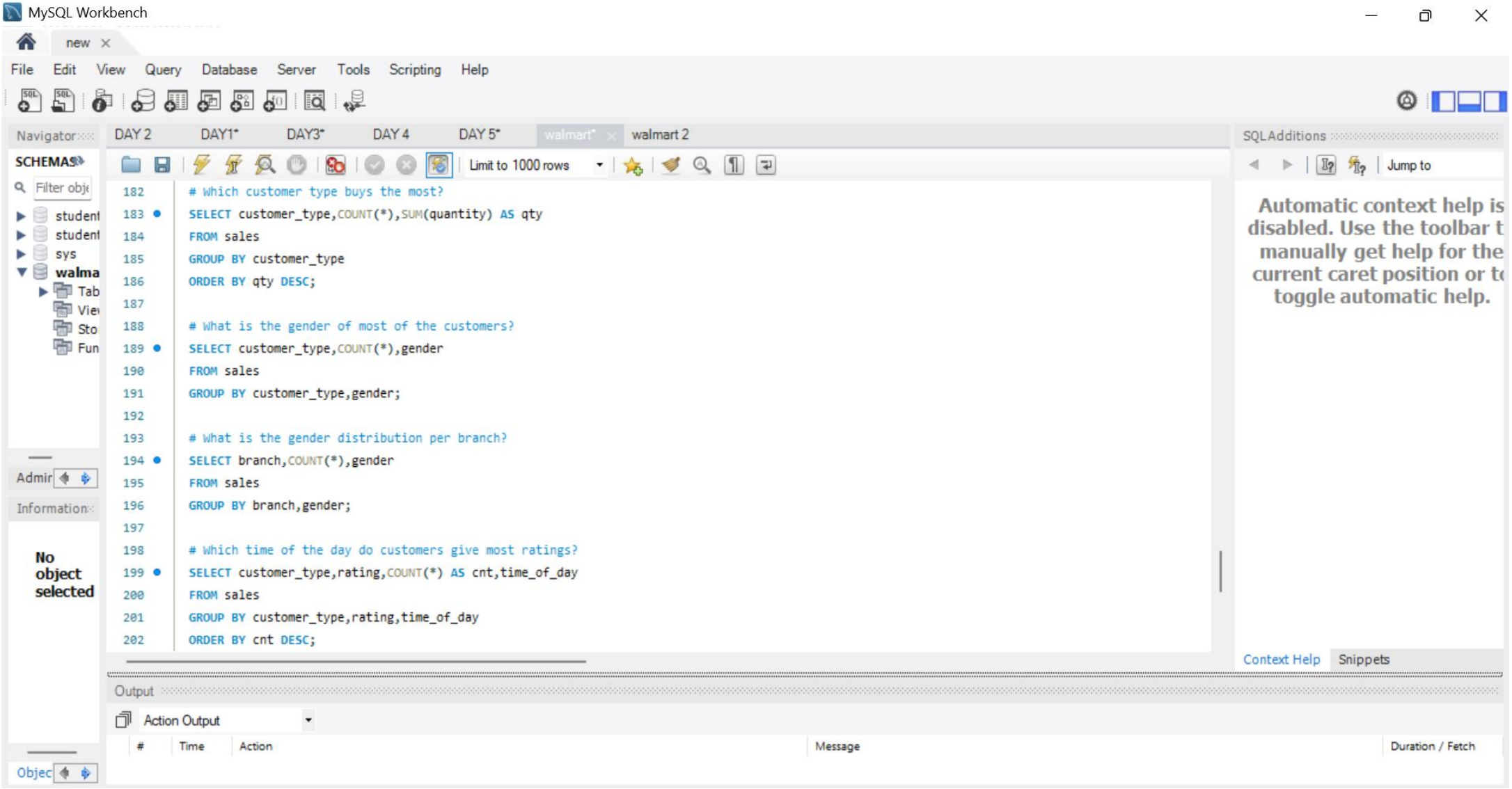
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Limit to 1000 rows
182 # Which customer type buys the most?
183 SELECT customer_type,COUNT(*),SUM(quantity) AS qty
184 FROM sales
185 GROUP BY customer_type
186 ORDER BY qty DESC;
187
188 # What is the gender of most of the customers?
189 SELECT customer_type,COUNT(*),gender
190 FROM sales
191 GROUP BY customer_type,gender;
192
193 # What is the gender distribution per branch?
194 SELECT branch,COUNT(*),gender
195 FROM sales
196 GROUP BY branch,gender;
197
198 # Which time of the day do customers give most ratings?
199 SELECT customer_type,rating,COUNT(*) AS cnt,time_of_day
200 FROM sales
201 GROUP BY customer_type,rating,time_of_day
202 ORDER BY cnt DESC;
SQLAdditions
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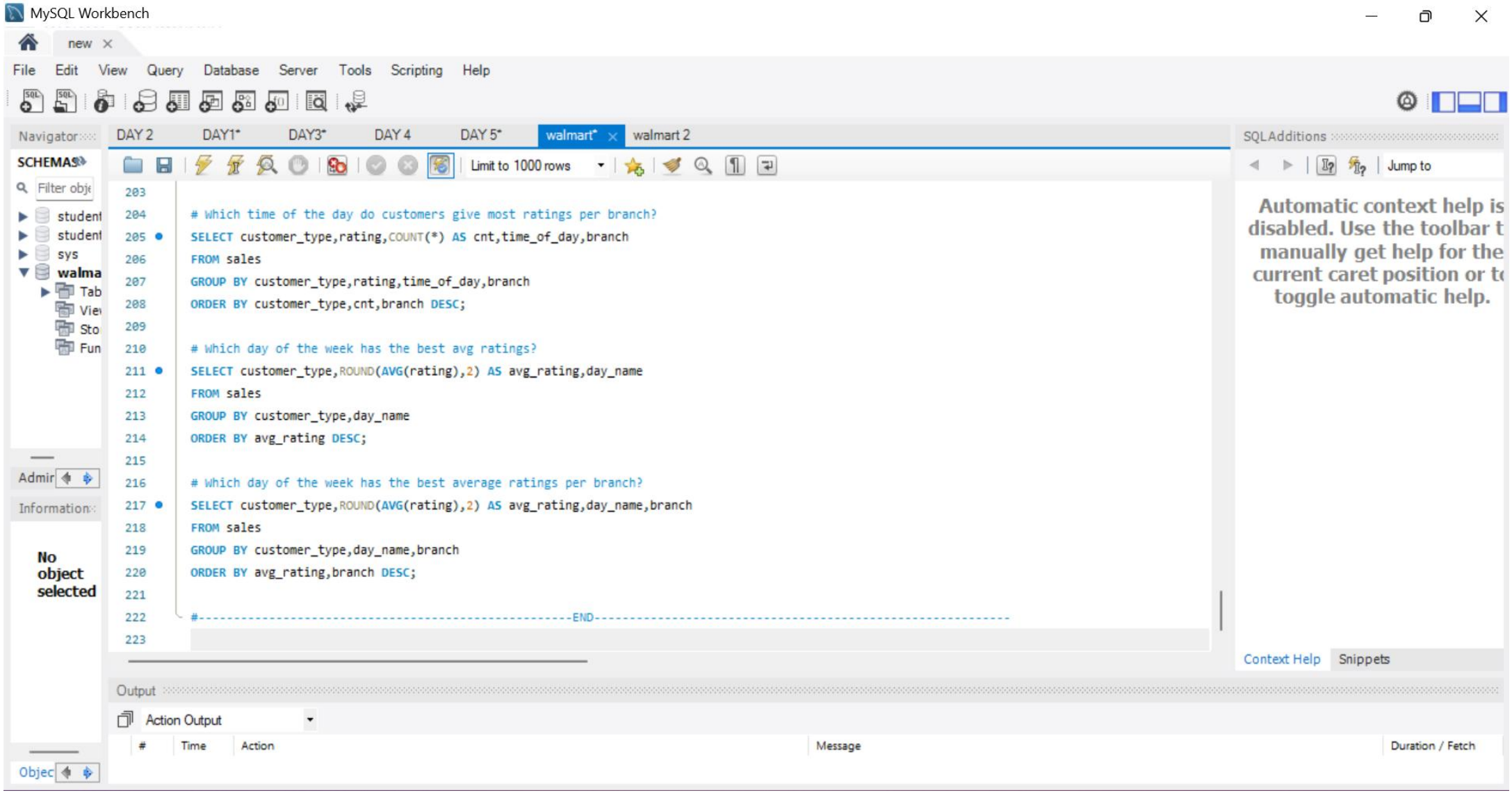
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Limit to 1000 rows
203
204 # Which time of the day do customers give most ratings per branch?
205 SELECT customer_type,rating,COUNT(*) AS cnt,time_of_day,branch
206 FROM sales
207 GROUP BY customer_type,rating,time_of_day,branch
208 ORDER BY customer_type,cnt,branch DESC;
209
210 # Which day of the week has the best avg ratings?
211 SELECT customer_type,ROUND(AVG(rating),2) AS avg_rating,day_name
212 FROM sales
213 GROUP BY customer_type,day_name
214 ORDER BY avg_rating DESC;
215
216 # Which day of the week has the best average ratings per branch?
217 SELECT customer_type,ROUND(AVG(rating),2) AS avg_rating,day_name,branch
218 FROM sales
219 GROUP BY customer_type,day_name,branch
220 ORDER BY avg_rating,branch DESC;
221
222 #----------END----------
223
SQLAdditions
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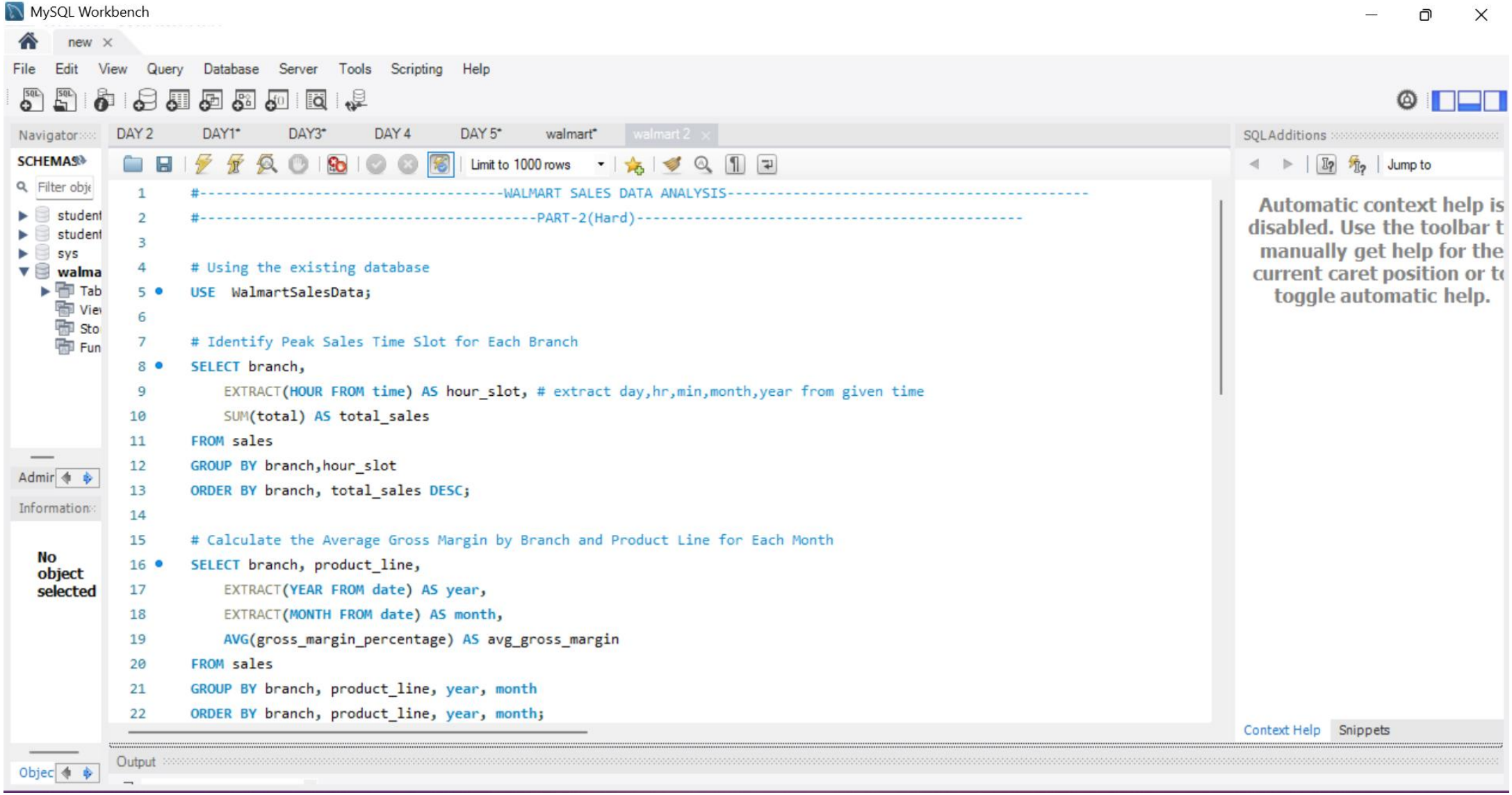
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Limit to 1000 rows
#----------WALMART SALES DATA ANALYSIS----------
#----------PART-2(Hard)----------
Using the existing database
USE WalmartSalesData;
Identify Peak Sales Time Slot for Each Branch
SELECT branch,
EXTRACT(HOUR FROM time) AS hour_slot, # extract day,hr,min,month,year from given time
SUM(total) AS total_sales
FROM sales
GROUP BY branch,hour_slot
ORDER BY branch, total_sales DESC;
Calculate the Average Gross Margin by Branch and Product Line for Each Month
SELECT branch, product_line,
EXTRACT(YEAR FROM date) AS year,
EXTRACT(MONTH FROM date) AS month,
AVG(gross_margin_percentage) AS avg_gross_margin
FROM sales
GROUP BY branch, product_line, year, month
ORDER BY branch, product_line, year, month;
SQLAdditions
Jump to
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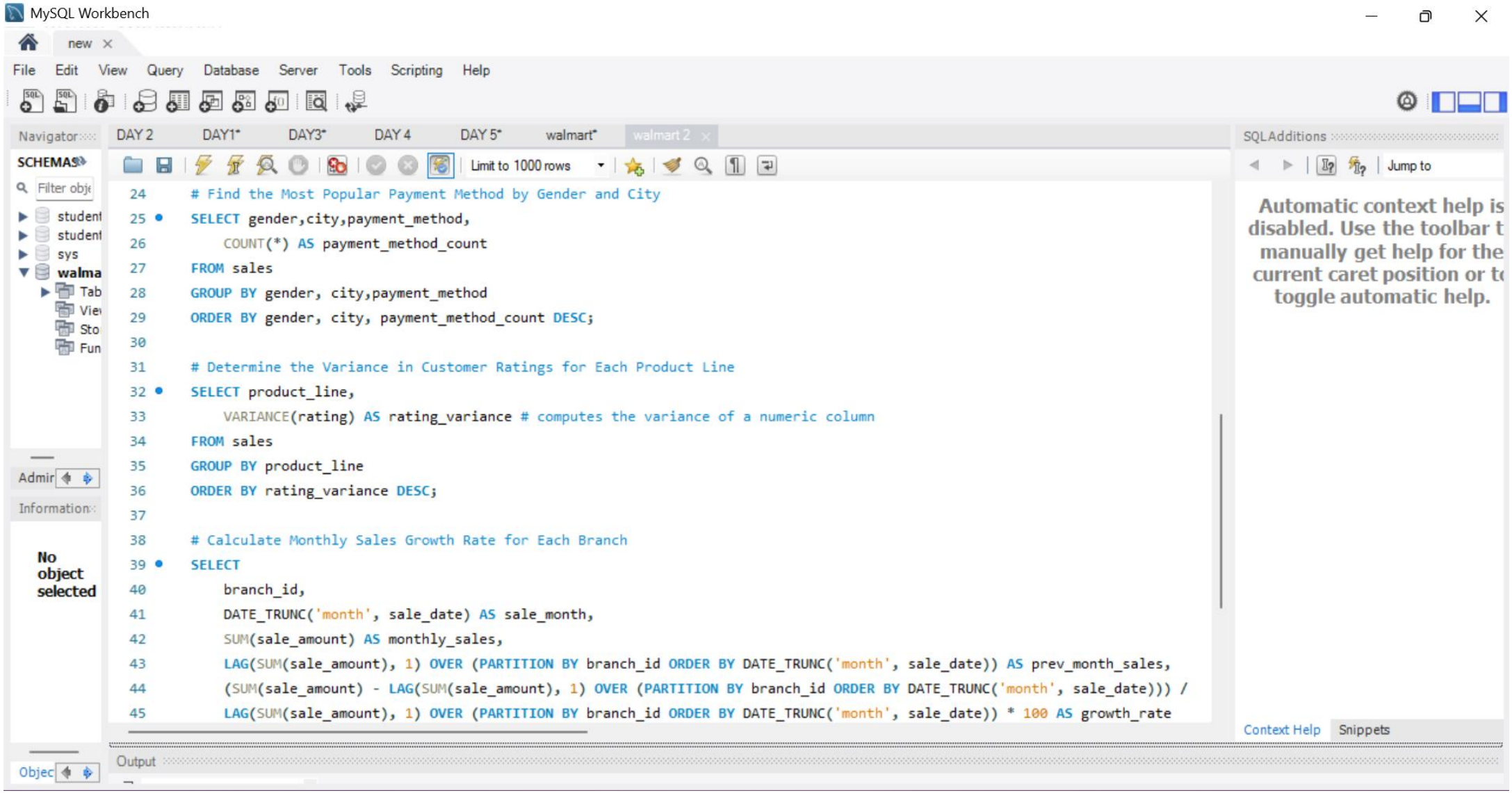
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Limit to 1000 rows
Find the Most Popular Payment Method by Gender and City
SELECT gender,city,payment_method,
COUNT(*) AS payment_method_count
FROM sales
GROUP BY gender, city,payment_method
ORDER BY gender, city, payment_method_count DESC;
Determine the Variance in Customer Ratings for Each Product Line
SELECT product_line,
VARIANCE(rating) AS rating_variance # computes the variance of a numeric column
FROM sales
GROUP BY product_line
ORDER BY rating_variance DESC;
Calculate Monthly Sales Growth Rate for Each Branch
SELECT
branch_id,
DATE_TRUNC('month', sale_date) AS sale_month,
SUM(sale_amount) AS monthly_sales,
LAG(SUM(sale_amount), 1) OVER (PARTITION BY branch_id ORDER BY DATE_TRUNC('month', sale_date)) AS prev_month_sales,
(SUM(sale_amount) - LAG(SUM(sale_amount), 1) OVER (PARTITION BY branch_id ORDER BY DATE_TRUNC('month', sale_date))) /
LAG(SUM(sale_amount), 1) OVER (PARTITION BY branch_id ORDER BY DATE_TRUNC('month', sale_date)) * 100 AS growth_rate
SQLAdditions
Jump to
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