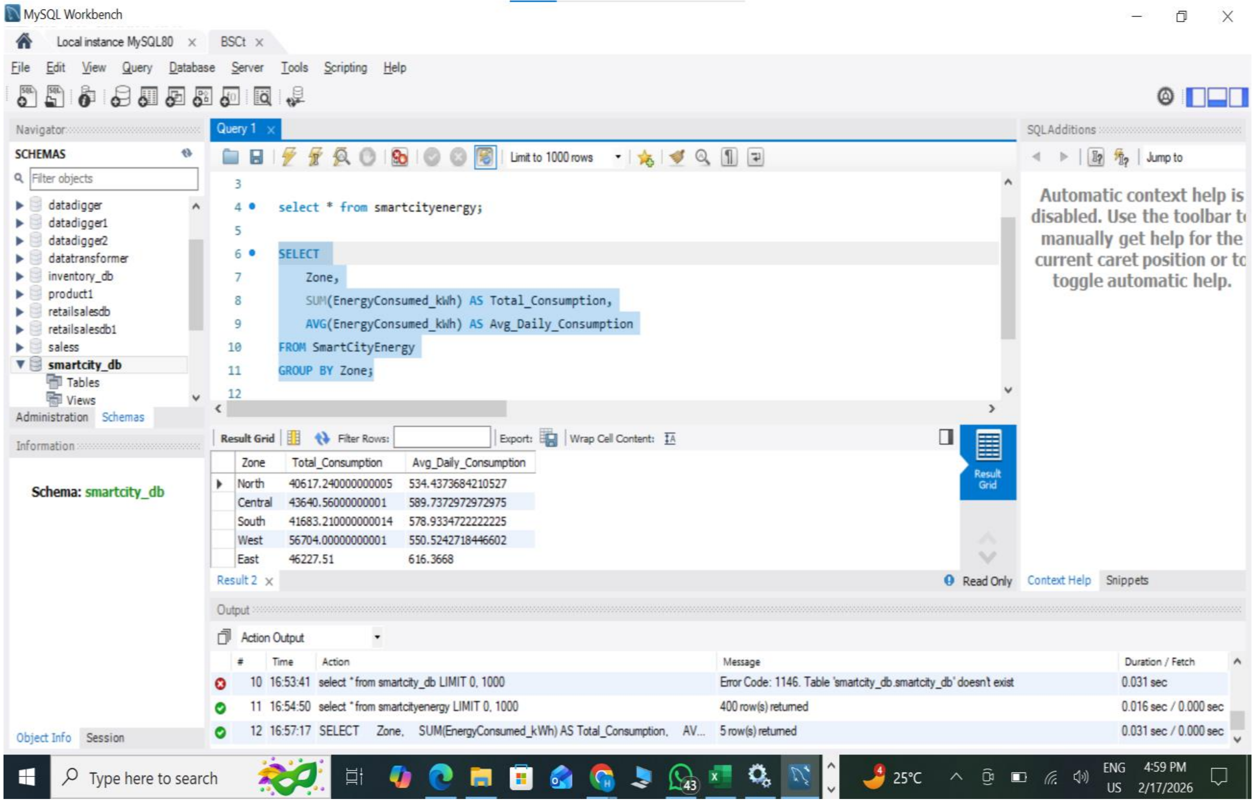
1.Total & Average Daily Energy Consumption by Zone:



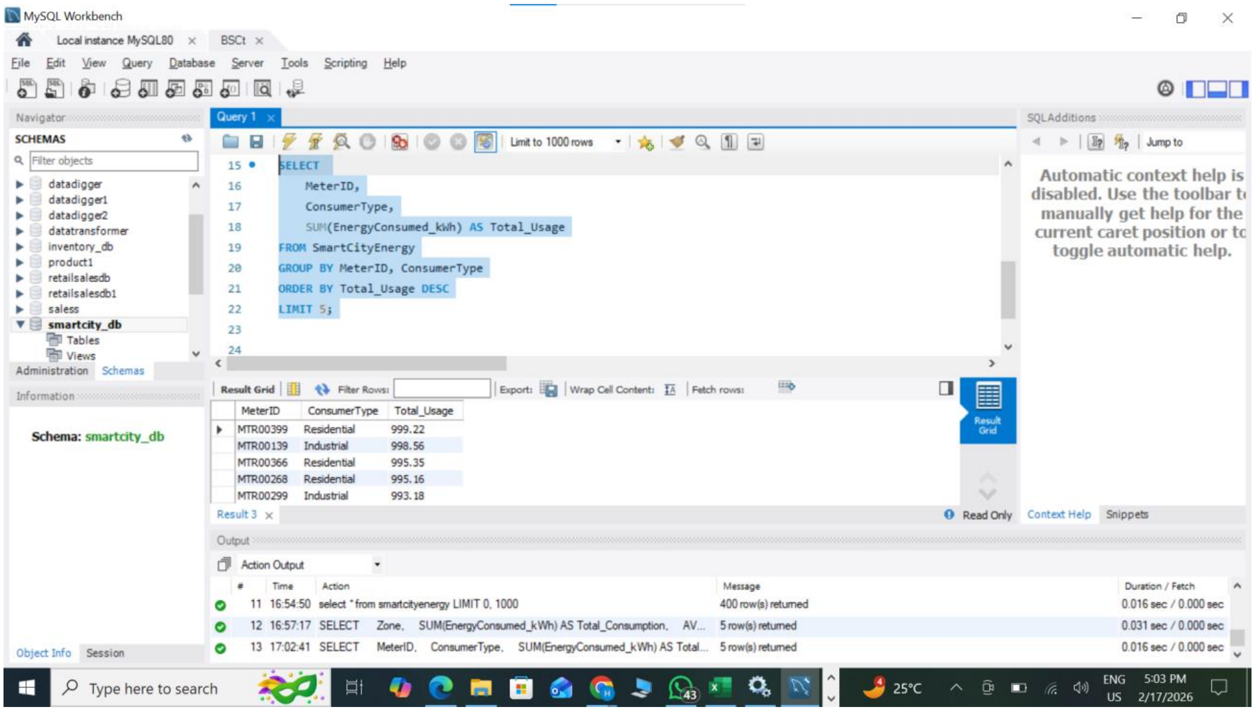
```
select * from smartcityenergy;

SELECT
    Zone,
    SUM(EnergyConsumed_kWh) AS Total_Consumption,
    AVG(EnergyConsumed_kWh) AS Avg_Daily_Consumption
FROM SmartCityEnergy
GROUP BY Zone;
```

Zone	Total_Consumption	Avg_Daily_Consumption
North	40617.240000000005	534.4373684210527
Central	43640.5600000001	589.7372972972975
South	41683.210000000014	578.9334722222225
West	56704.0000000001	550.5242718446602
East	46227.51	616.3668

```
#   Time      Action                                                              Message                                                          Duration / Fetch
10  16:53:41  select * from smartcity_db LIMIT 0, 1000                            Error Code: 1146. Table 'smartcity_db.smartcity_db' doesn't exist  0.031 sec
11  16:54:50  select * from smartcityenergy LIMIT 0, 1000                         400 row(s) returned                                              0.016 sec / 0.000 sec
12  16:57:17  SELECT    Zone,    SUM(EnergyConsumed_kWh) AS Total_Consumption,    AV...   5 row(s) returned                                        0.031 sec / 0.000 sec
```

2. Top 5 Highest Energy Consuming Consumers:-

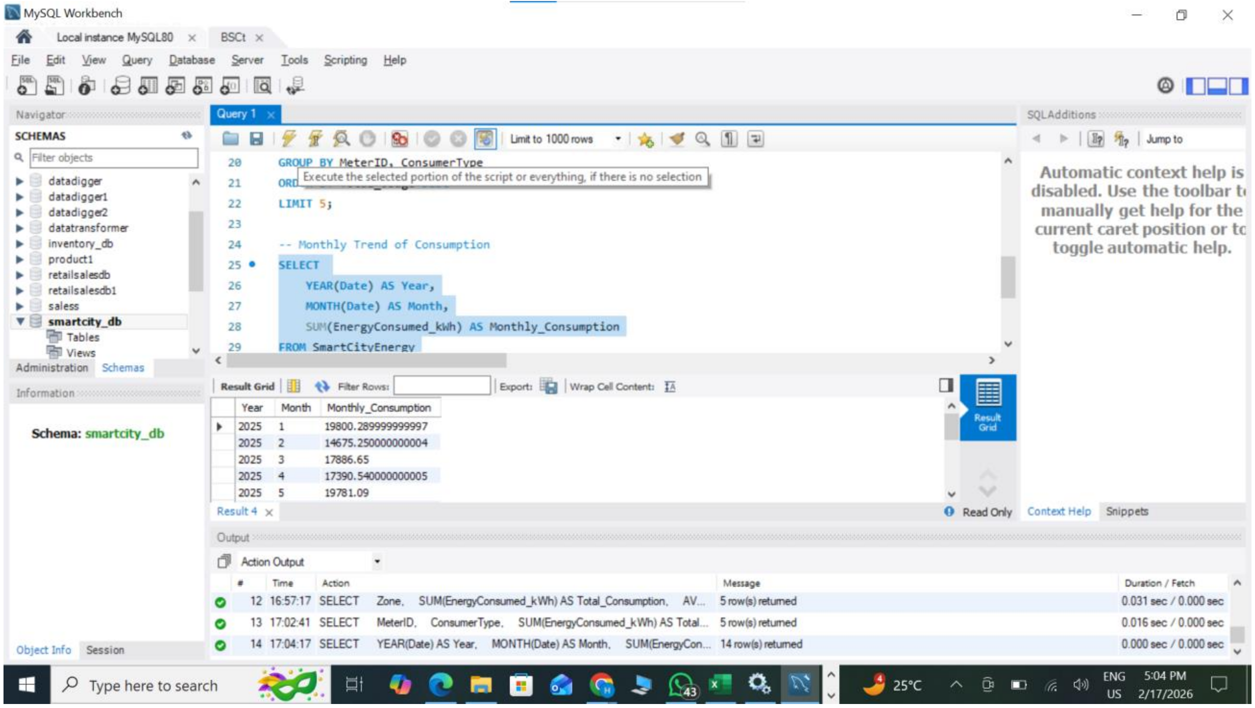


```
SELECT
    MeterID,
    ConsumerType,
    SUM(EnergyConsumed_kWh) AS Total_Usage
FROM SmartCityEnergy
GROUP BY MeterID, ConsumerType
ORDER BY Total_Usage DESC
LIMIT 5;
```

MeterID	ConsumerType	Total_Usage
MTR00399	Residential	999.22
MTR00139	Industrial	998.56
MTR00366	Residential	995.35
MTR00268	Residential	995.16
MTR00299	Industrial	993.18

```
#   Time      Action                                                                      Message              Duration / Fetch
11  16:54:50  select * from smartcityenergy LIMIT 0, 1000                                 400 row(s) returned  0.016 sec / 0.000 sec
12  16:57:17  SELECT    Zone,    SUM(EnergyConsumed_kWh) AS Total_Consumption,    AV...   5 row(s) returned    0.031 sec / 0.000 sec
13  17:02:41  SELECT    MeterID,    ConsumerType,    SUM(EnergyConsumed_kWh) AS Total...  5 row(s) returned    0.016 sec / 0.000 sec
```

3. Monthly Trend of Consumption :



Schema: smartcity_db

```
GROUP BY MeterID, ConsumerType
ORD
LIMIT 5;

-- Monthly Trend of Consumption
SELECT
    YEAR(Date) AS Year,
    MONTH(Date) AS Month,
    SUM(EnergyConsumed_kWh) AS Monthly_Consumption
FROM SmartCityEnergy
```

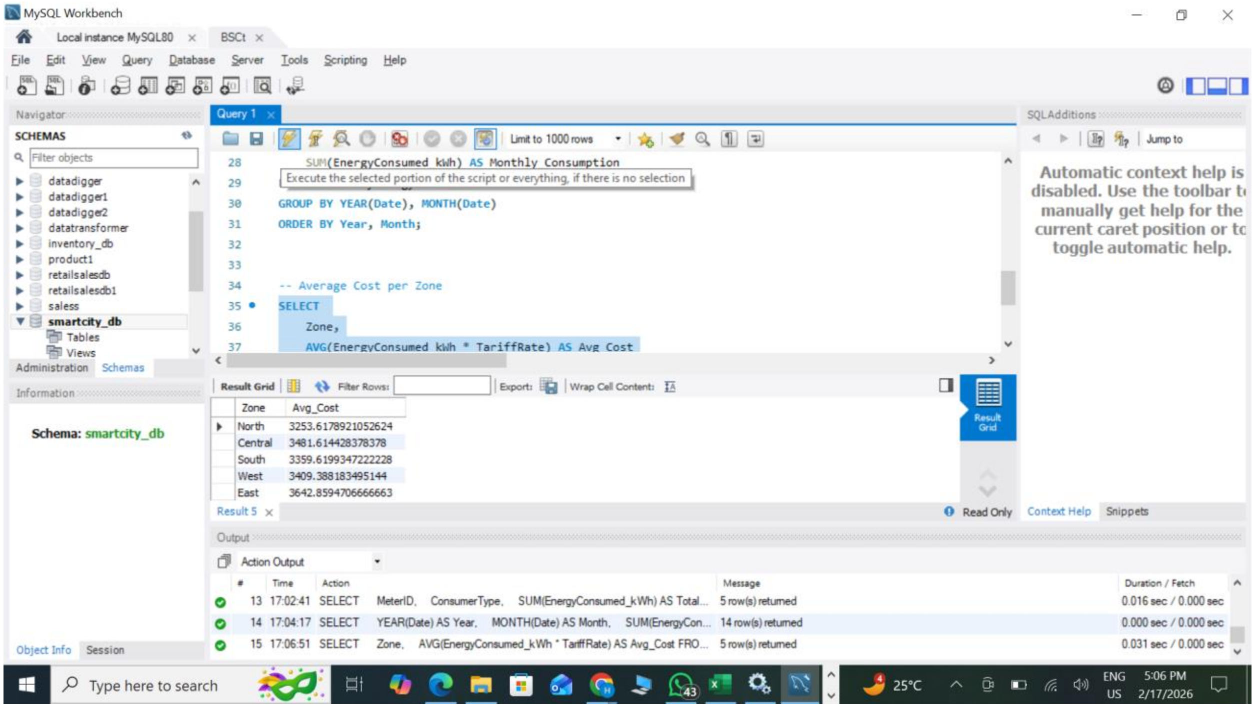
Execute the selected portion of the script or everything, if there is no selection

Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or tc toggle automatic help.

Year	Month	Monthly_Consumption
2025	1	19800.289999999997
2025	2	14675.250000000004
2025	3	17886.65
2025	4	17390.540000000005
2025	5	19781.09

```
#   Time      Action                                                            Message            Duration / Fetch
12  16:57:17  SELECT  Zone,  SUM(EnergyConsumed_kWh) AS Total_Consumption,  AV...  5 row(s) returned   0.031 sec / 0.000 sec
13  17:02:41  SELECT  MeterID,  ConsumerType,  SUM(EnergyConsumed_kWh) AS Total...  5 row(s) returned   0.016 sec / 0.000 sec
14  17:04:17  SELECT  YEAR(Date) AS Year,  MONTH(Date) AS Month,  SUM(EnergyCon...  14 row(s) returned  0.000 sec / 0.000 sec
```

4. Average Cost per Zone :-



Schema: smartcity_db

```
    SUM(EnergyConsumed_kWh) AS Monthly_Consumption

GROUP BY YEAR(Date), MONTH(Date)
ORDER BY Year, Month;


-- Average Cost per Zone
SELECT
    Zone,
    AVG(EnergyConsumed_kWh * TariffRate) AS Avg_Cost
```

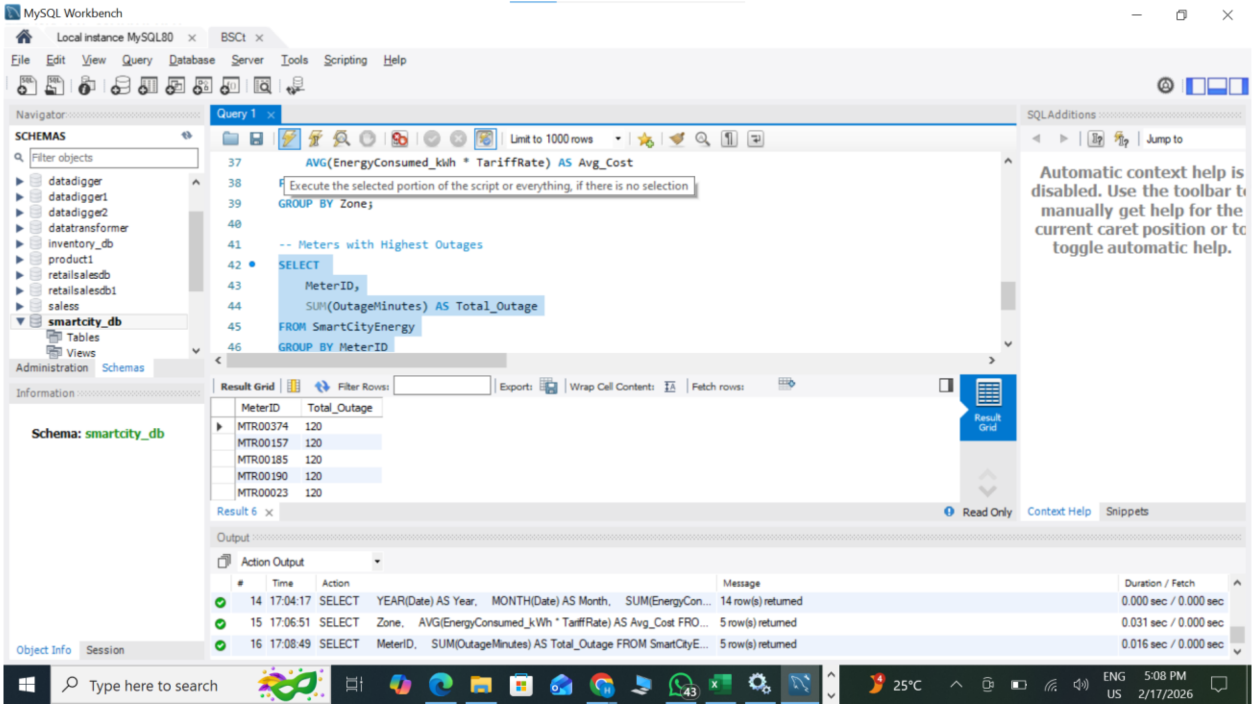
Execute the selected portion of the script or everything, if there is no selection

Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or tc toggle automatic help.

Zone	Avg_Cost
North	3253.6178921052624
Central	3481.614428378378
South	3359.6199347222228
West	3409.388183495144
East	3642.8594706666663

```
#   Time      Action                                                                 Message            Duration / Fetch
13  17:02:41  SELECT  MeterID,  ConsumerType,  SUM(EnergyConsumed_kWh) AS Total...       5 row(s) returned   0.016 sec / 0.000 sec
14  17:04:17  SELECT  YEAR(Date) AS Year,  MONTH(Date) AS Month,  SUM(EnergyCon...       14 row(s) returned  0.000 sec / 0.000 sec
15  17:06:51  SELECT  Zone,  AVG(EnergyConsumed_kWh * TariffRate) AS Avg_Cost FRO...     5 row(s) returned   0.031 sec / 0.000 sec
```

5. Meters with Highest Outages :



Schema: smartcity_db

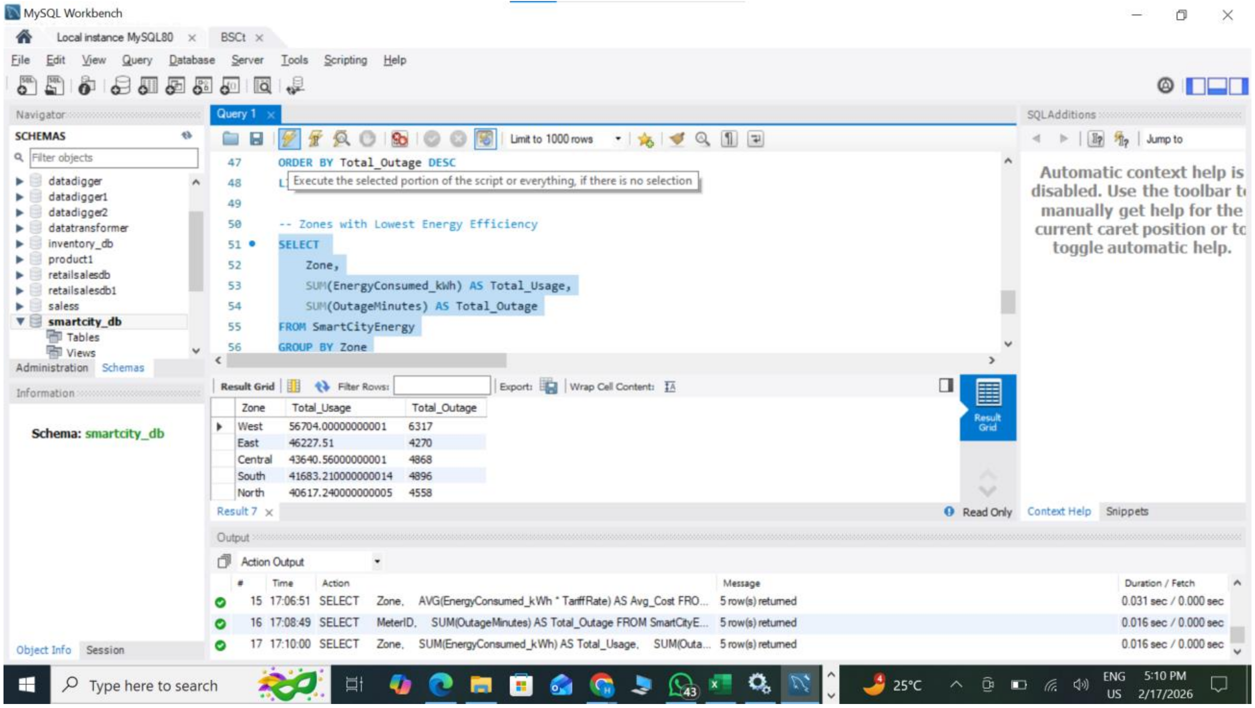
```
    AVG(EnergyConsumed_kWh * TariffRate) AS Avg_Cost
F
GROUP BY Zone;

-- Meters with Highest Outages
SELECT
    MeterID,
    SUM(OutageMinutes) AS Total_Outage
FROM SmartCityEnergy
GROUP BY MeterID
```

MeterID	Total_Outage
MTR00374	120
MTR00157	120
MTR00185	120
MTR00190	120
MTR00023	120

#	Time	Action	Message	Duration / Fetch
14	17:04:17	SELECT YEAR(Date) AS Year, MONTH(Date) AS Month, SUM(EnergyCon...	14 row(s) returned	0.000 sec / 0.000 sec
15	17:06:51	SELECT Zone, AVG(EnergyConsumed_kWh * TariffRate) AS Avg_Cost FRO...	5 row(s) returned	0.031 sec / 0.000 sec
16	17:08:49	SELECT MeterID, SUM(OutageMinutes) AS Total_Outage FROM SmartCityE...	5 row(s) returned	0.016 sec / 0.000 sec

6. Zones with Lowest Energy Efficiency :-



Schema: smartcity_db

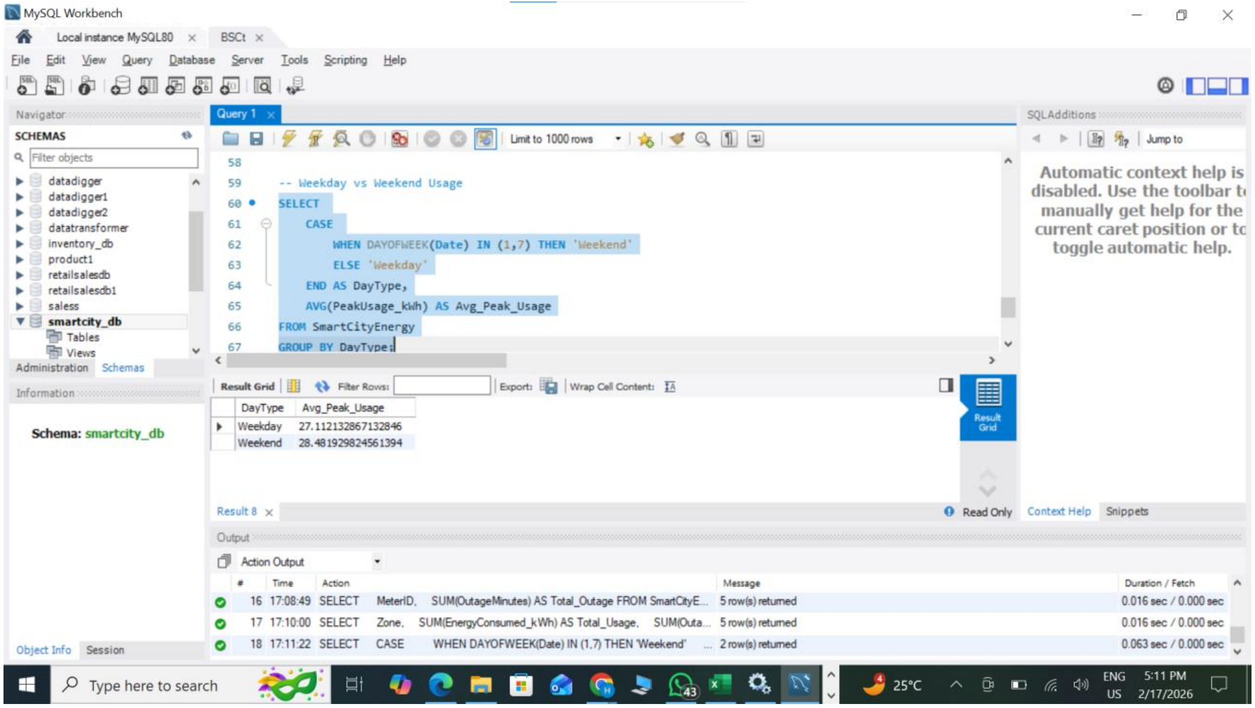
```
ORDER BY Total_Outage DESC
L

-- Zones with Lowest Energy Efficiency
SELECT
    Zone,
    SUM(EnergyConsumed_kWh) AS Total_Usage,
    SUM(OutageMinutes) AS Total_Outage
FROM SmartCityEnergy
GROUP BY Zone
```

Zone	Total_Usage	Total_Outage
West	56704.00000000001	6317
East	46227.51	4270
Central	43640.56000000001	4868
South	41683.210000000014	4896
North	40617.240000000005	4558

#	Time	Action	Message	Duration / Fetch
15	17:06:51	SELECT Zone, AVG(EnergyConsumed_kWh * TariffRate) AS Avg_Cost FRO...	5 row(s) returned	0.031 sec / 0.000 sec
16	17:08:49	SELECT MeterID, SUM(OutageMinutes) AS Total_Outage FROM SmartCityE...	5 row(s) returned	0.016 sec / 0.000 sec
17	17:10:00	SELECT Zone, SUM(EnergyConsumed_kWh) AS Total_Usage, SUM(Outa...	5 row(s) returned	0.016 sec / 0.000 sec

7. Weekday vs Weekend Usage :-



```sql
-- Weekday vs Weekend Usage
SELECT
    CASE
        WHEN DAYOFWEEK(Date) IN (1,7) THEN 'Weekend'
        ELSE 'Weekday'
    END AS DayType,
    AVG(PeakUsage_kWh) AS Avg_Peak_Usage
FROM SmartCityEnergy
GROUP BY DayType;
```

DayType	Avg_Peak_Usage
Weekday	27.112132867132846
Weekend	28.481929824561394

Schema: smartcity_db

Automatic context help is disabled. Use the toolbar t manually get help for the current caret position or to toggle automatic help.

```
#   Time      Action                                                                    Message           Duration / Fetch
16  17:08:49  SELECT  MeterID,  SUM(OutageMinutes) AS Total_Outage FROM SmartCityE...   5 row(s) returned  0.016 sec / 0.000 sec
17  17:10:00  SELECT  Zone,  SUM(EnergyConsumed_kWh) AS Total_Usage,  SUM(Outa...       5 row(s) returned  0.016 sec / 0.000 sec
18  17:11:22  SELECT  CASE  WHEN DAYOFWEEK(Date) IN (1,7) THEN 'Weekend'  ...           2 row(s) returned  0.063 sec / 0.000 sec
```