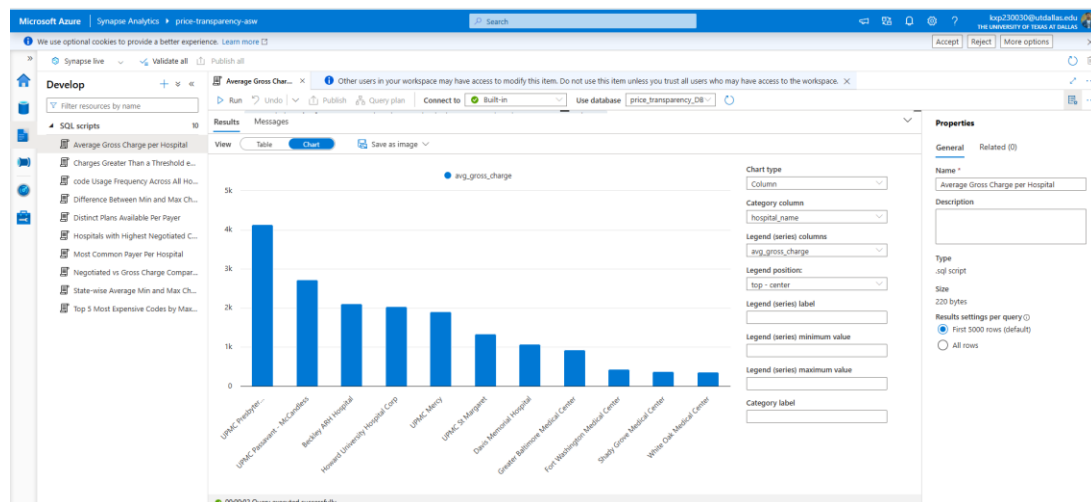# SQL COMMANDS

1. **Average Gross Charge per Hospital**
   SELECT h.hospital_name, ROUND(AVG(c.standard_charge_gross), 2) AS
   avg_gross_charge
   FROM payment_details c
   JOIN hospital_details h ON c.hospital_id = h.hospital_id
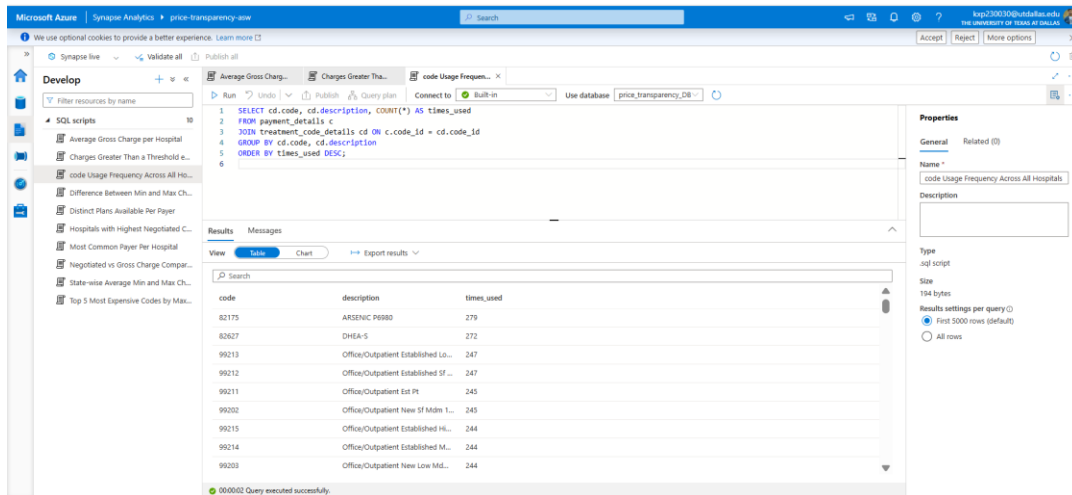   GROUP BY h.hospital_name
   ORDER BY avg_gross_charge DESC;

2. **Charges Greater Than a Threshold exp 100000**
   SELECT h.hospital_name, cd.description, c.standard_charge_max
   FROM payment_details c
   JOIN hospital_details h ON c.hospital_id = h.hospital_id
   JOIN treatment_code_details cd ON c.code_id = cd.code_id
   where c.standard_charge_max > 100000
   ORDER BY c.standard_charge_max DESC;
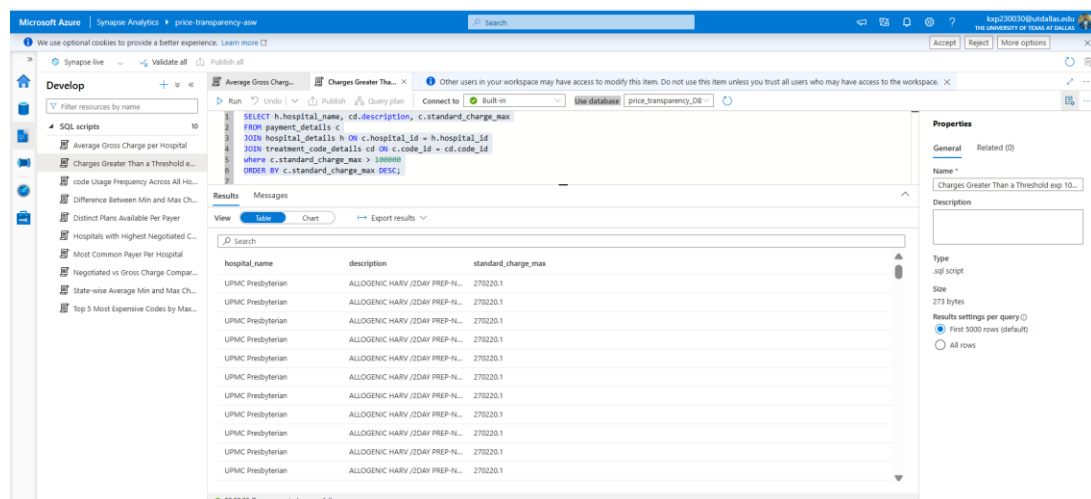
3. Code Usage Frequency Across All Hospitals

SELECT cd.code, cd.description, COUNT(*) AS times_used
FROM payment_details c
JOIN treatment_code_details cd ON c.code_id = cd.code_id
GROUP BY cd.code, cd.description
ORDER BY times_used DESC;

4. Difference Between Min and Max Charges by Code

SELECT cd.code, cd.description,
    ROUND(AVG(c.standard_charge_max - c.standard_charge_min), 2) AS
avg_spread
FROM payment_details c
JOIN treatment_code_details cd ON c.code_id = cd.code_id
GROUP BY cd.code, cd.description
ORDER BY avg_spread DESC;

5. Distinct Plans Available Per Payer
SELECT p.payer_name, COUNT(DISTINCT pl.plan_name) AS total_plans
FROM payment_details c
JOIN payer_name_details p ON c.payer_id = p.payer_id
JOIN plan_name_details pl ON c.plan_id = pl.plan_id
GROUP BY p.payer_name
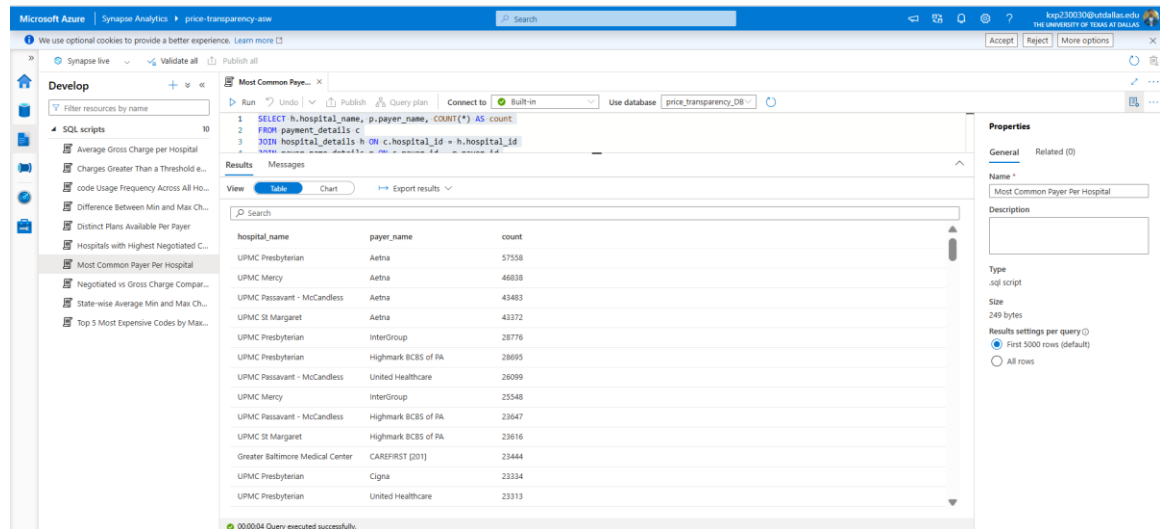HAVING COUNT(DISTINCT pl.plan_name) >= 2
ORDER BY total_plans DESC;
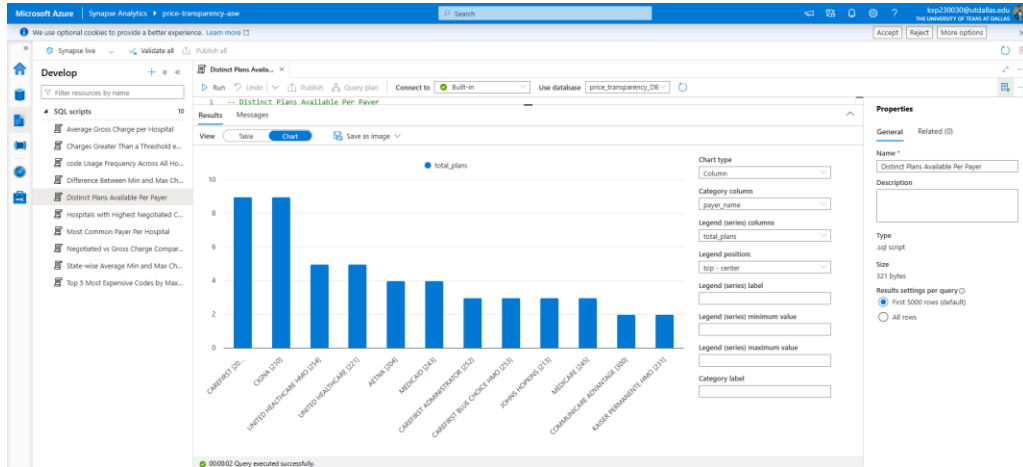
6. Hospitals with Highest Negotiated Charge Averages
SELECT TOP 5 h.hospital_name,
ROUND(AVG(c.standard_charge_negotiated_dollar), 2) AS avg_negotiated
FROM payment_details c
JOIN hospital_details h ON c.hospital_id = h.hospital_id
GROUP BY h.hospital_name
ORDER BY avg_negotiated DESC;
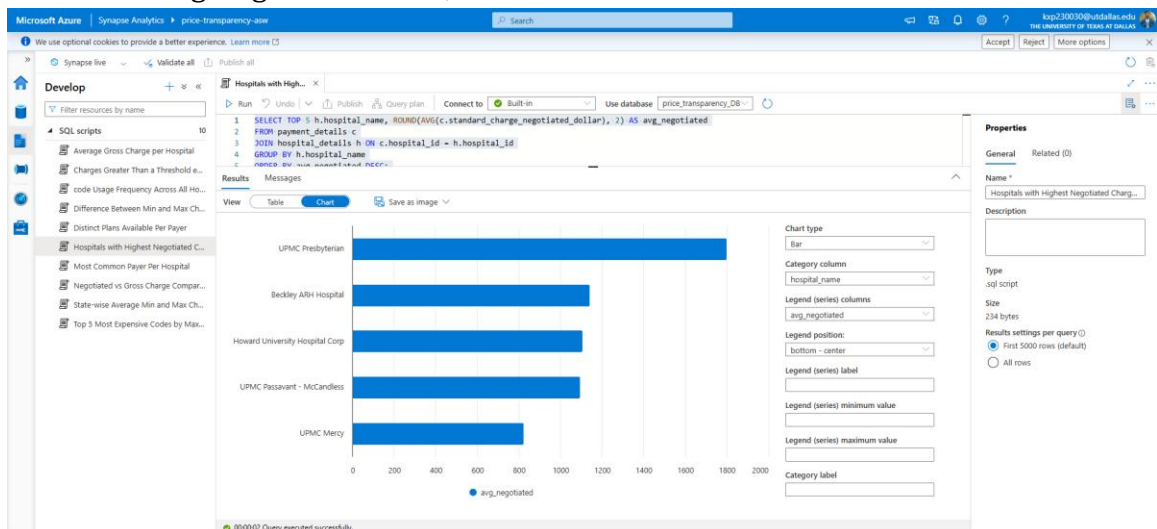
7. Most Common Payer Per Hospital

SELECT h.hospital_name, p.payer_name, COUNT(*) AS count
FROM payment_details c
JOIN hospital_details h ON c.hospital_id = h.hospital_id
JOIN payer_name_details p ON c.payer_id = p.payer_id
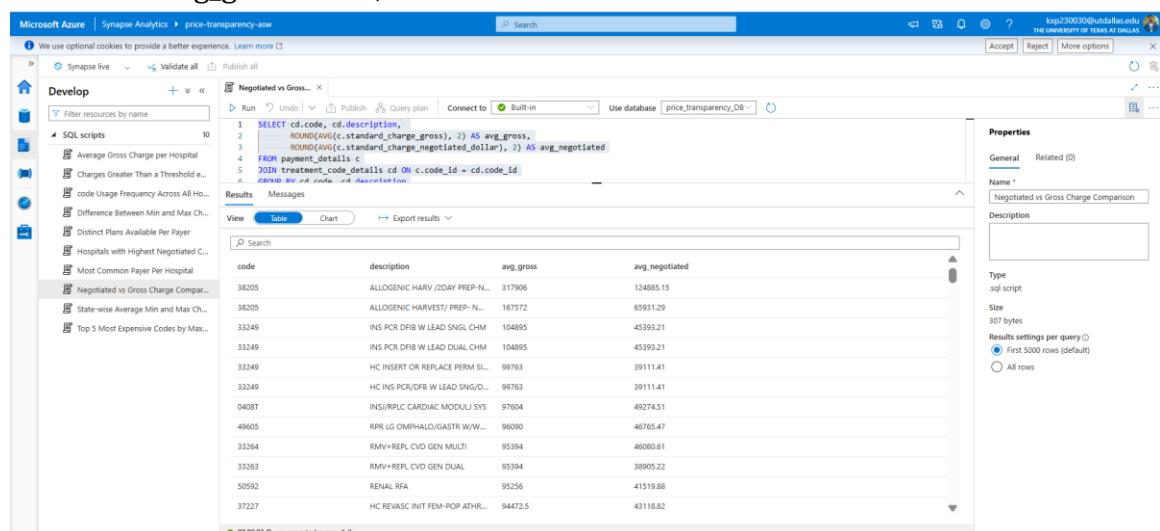GROUP BY h.hospital_name, p.payer_name
ORDER BY count DESC;

8. Negotiated vs Gross Charge Comparison

SELECT cd.code, cd.description,
    ROUND(AVG(c.standard_charge_gross), 2) AS avg_gross,
    ROUND(AVG(c.standard_charge_negotiated_dollar), 2) AS avg_negotiated
FROM payment_details c
JOIN treatment_code_details cd ON c.code_id = cd.code_id
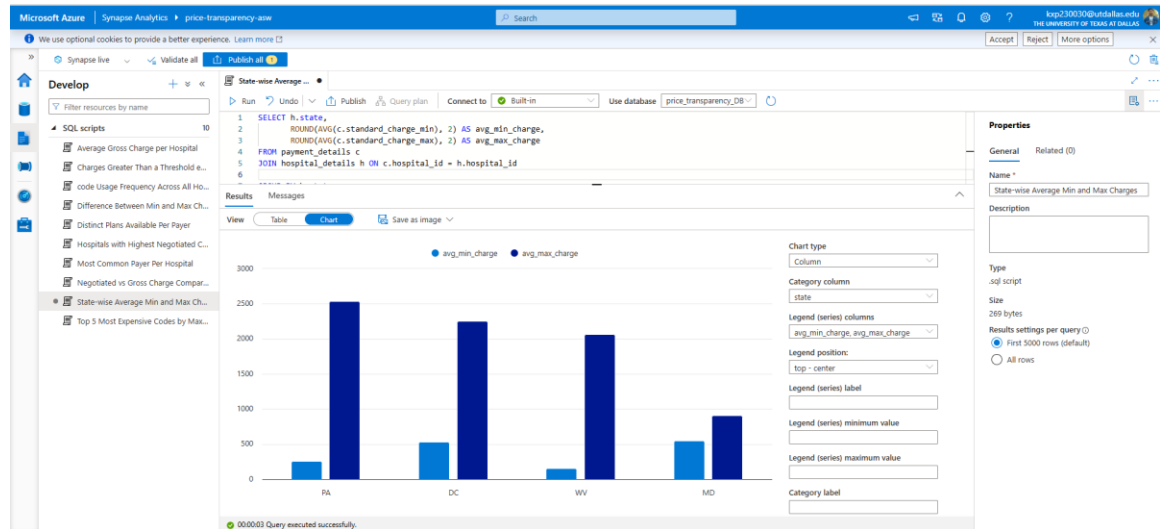GROUP BY cd.code, cd.description
ORDER BY avg_gross DESC;

9. State-wise Average Min and Max Charges

SELECT h.state,
    ROUND(AVG(c.standard_charge_min), 2) AS avg_min_charge,
    ROUND(AVG(c.standard_charge_max), 2) AS avg_max_charge
FROM payment_details c
JOIN hospital_details h ON c.hospital_id = h.hospital_id
GROUP BY h.state
ORDER BY avg_max_charge DESC;

10. Top 5 Most Expensive Codes by Max Charge

SELECT TOP 5 cd.code, cd.description, MAX(c.standard_charge_max) AS max_charge
FROM payment_details c
JOIN treatment_code_details cd ON c.code_id = cd.code_id
GROUP BY cd.code, cd.description
ORDER BY max_charge DESC;