Internship Program: Soulvibe.Tech

“Customer Order Analysis Using SQL”

Batch Name: SVT/DAINT/2025/05/B01

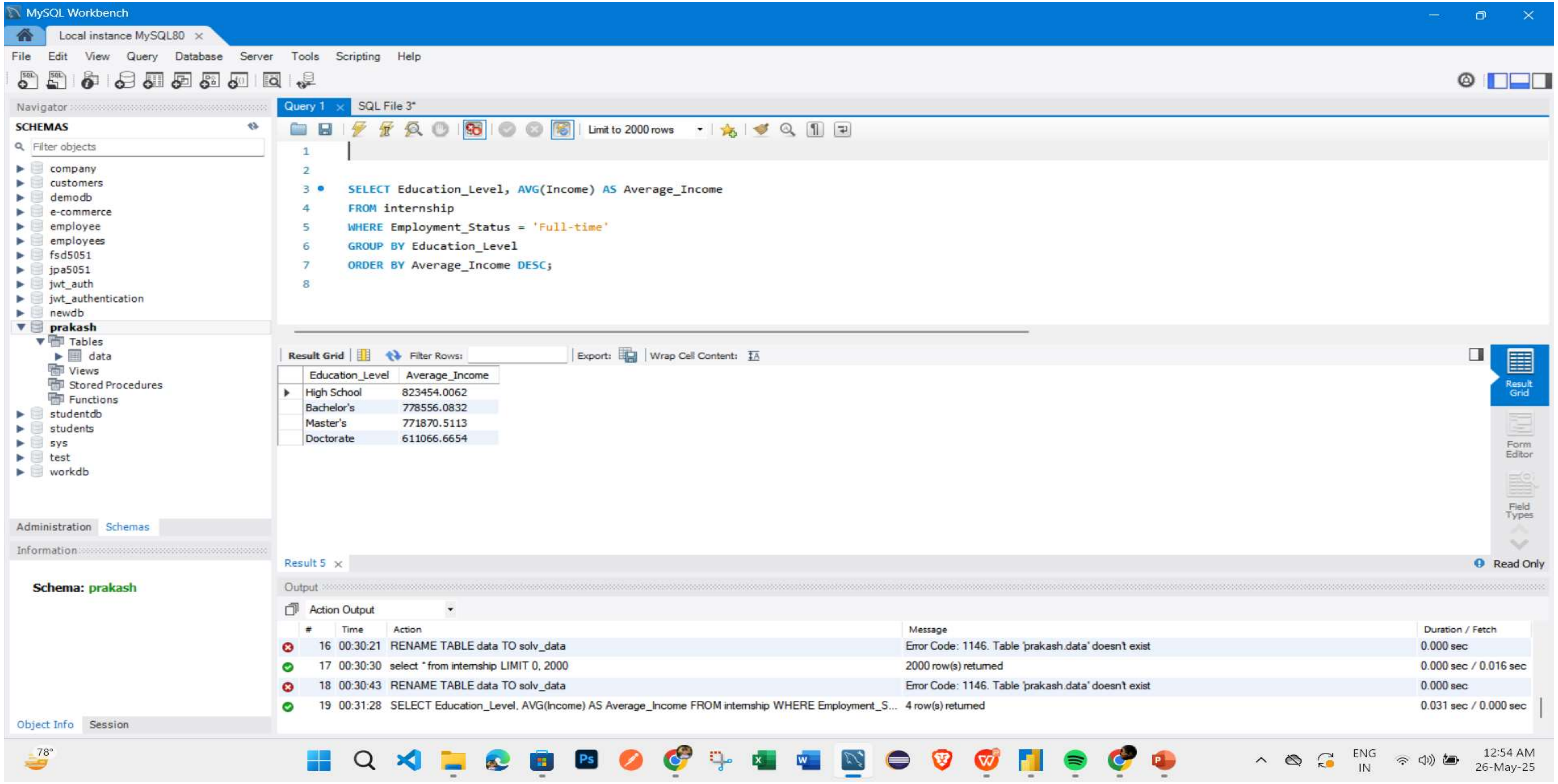
Introduction

Overview of the main objectives

In this task, I was asked to analyze customer order data using SQL. The objective was to derive meaningful business insights by writing queries to filter, group, and summarize the data. This helps in understanding customer behavior, sales performance, and operational patterns. I used SQL to explore trends and answer specific questions about the dataset.

1

find the average income for each educational_level for those who are employed full time.



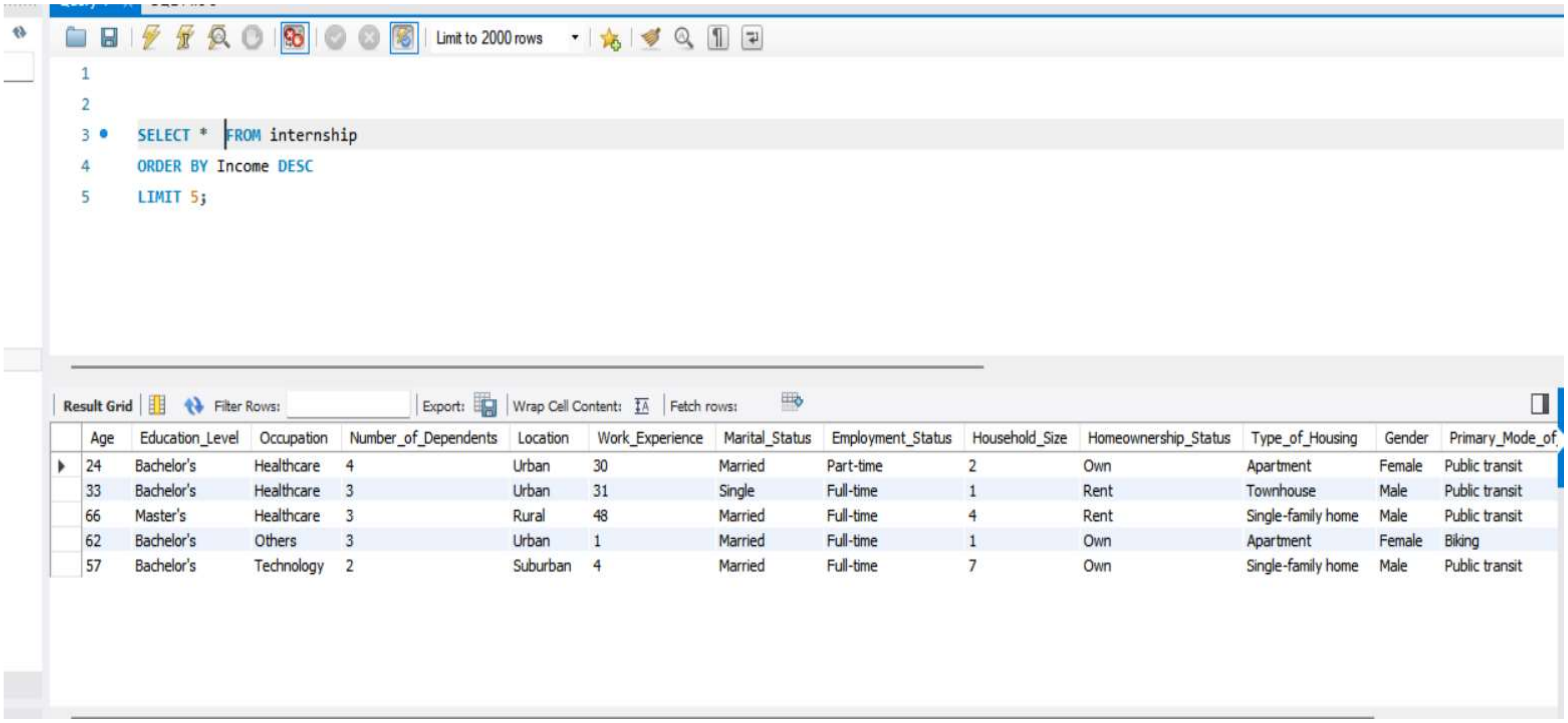
```
SELECT Education_Level, AVG(Income) AS Average_Income
FROM internship
WHERE Employment_Status = 'Full-time'
GROUP BY Education_Level
ORDER BY Average_Income DESC;
```

Education_Level	Average_Income
High School	823454.0062
Bachelor's	778556.0832
Master's	771870.5113
Doctorate	611066.6654

#	Time	Action	Message	Duration / Fetch
16	00:30:21	RENAME TABLE data TO solv_data	Error Code: 1146. Table 'prakash.data' doesn't exist	0.000 sec
17	00:30:30	select * from internship LIMIT 0, 2000	2000 row(s) returned	0.000 sec / 0.016 sec
18	00:30:43	RENAME TABLE data TO solv_data	Error Code: 1146. Table 'prakash.data' doesn't exist	0.000 sec
19	00:31:28	SELECT Education_Level, AVG(Income) AS Average_Income FROM internship WHERE Employment_S...	4 row(s) returned	0.031 sec / 0.000 sec

2

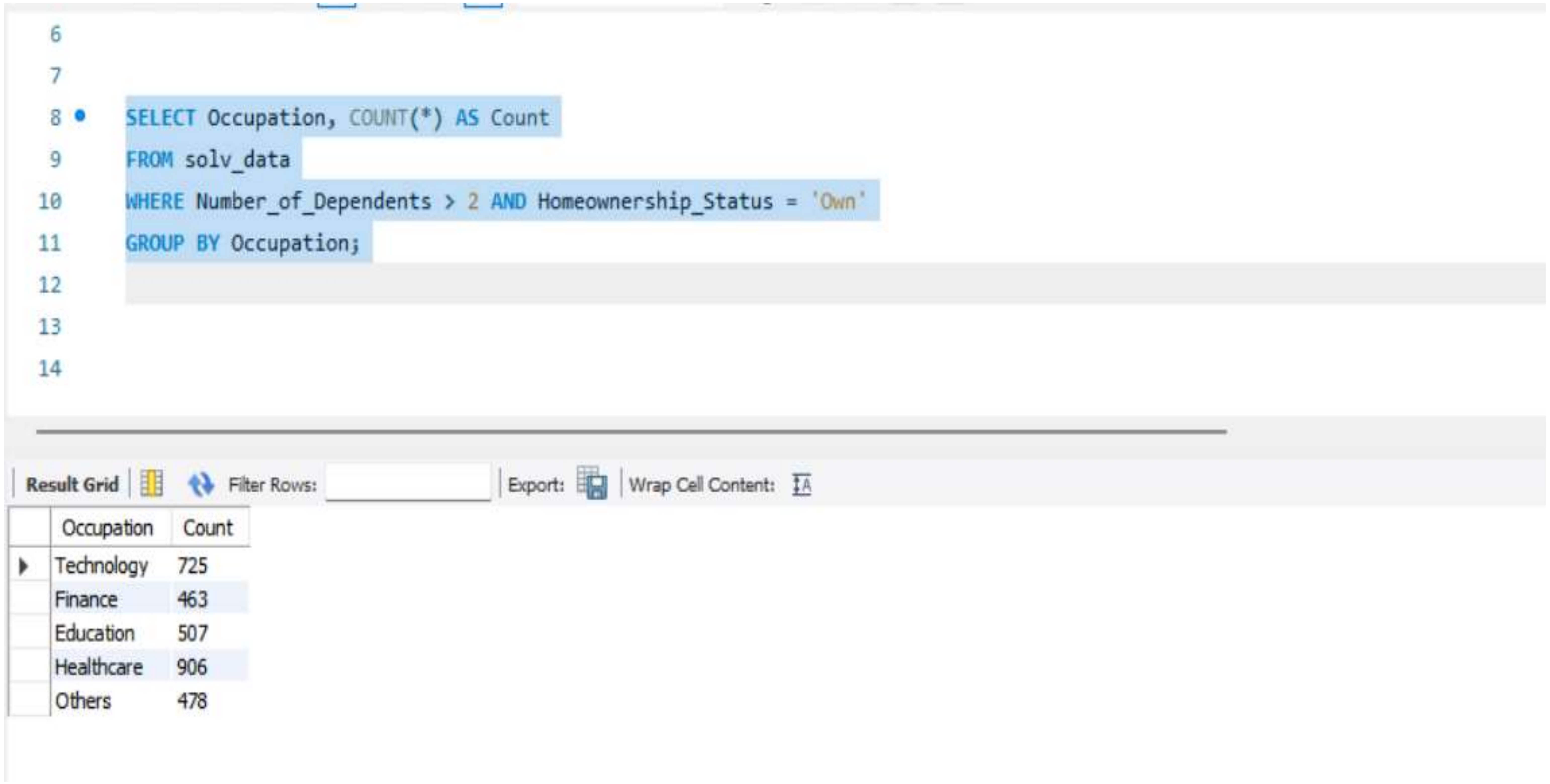
retrieve the top 5 highest earning individuals and their full details



```
SELECT * FROM internship
ORDER BY Income DESC
LIMIT 5;
```

Age	Education_Level	Occupation	Number_of_Dependents	Location	Work_Experience	Marital_Status	Employment_Status	Household_Size	Homeownership_Status	Type_of_Housing	Gender	Primary_Mode_of
24	Bachelor's	Healthcare	4	Urban	30	Married	Part-time	2	Own	Apartment	Female	Public transit
33	Bachelor's	Healthcare	3	Urban	31	Single	Full-time	1	Rent	Townhouse	Male	Public transit
66	Master's	Healthcare	3	Rural	48	Married	Full-time	4	Rent	Single-family home	Male	Public transit
62	Bachelor's	Others	3	Urban	1	Married	Full-time	1	Own	Apartment	Female	Biking
57	Bachelor's	Technology	2	Suburban	4	Married	Full-time	7	Own	Single-family home	Male	Public transit

3 Count how many people in each Occupation have more than 2 dependents and own a house.



```sql
SELECT Occupation, COUNT(*) AS Count
FROM solv_data
WHERE Number_of_Dependents > 2 AND Homeownership_Status = 'Own'
GROUP BY Occupation;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Occupation	Count
Technology	725
Finance	463
Education	507
Healthcare	906
Others	478

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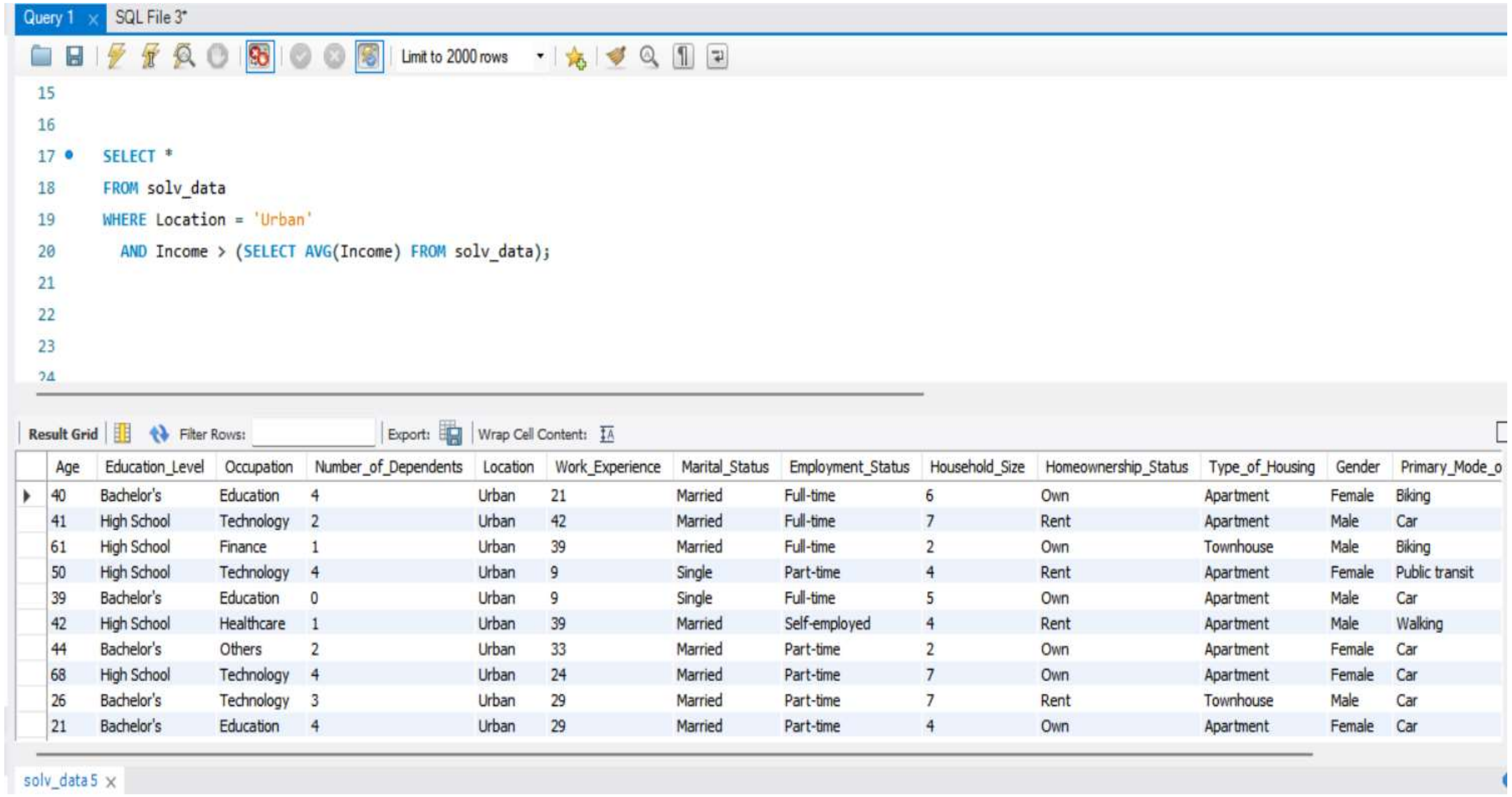
Individuals in Urban locations with income above average



```sql
SELECT *
FROM solv_data
WHERE Location = 'Urban'
  AND Income > (SELECT AVG(Income) FROM solv_data);
```

Age	Education_Level	Occupation	Number_of_Dependents	Location	Work_Experience	Marital_Status	Employment_Status	Household_Size	Homeownership_Status	Type_of_Housing	Gender	Primary_Mode_o
40	Bachelor's	Education	4	Urban	21	Married	Full-time	6	Own	Apartment	Female	Biking
41	High School	Technology	2	Urban	42	Married	Full-time	7	Rent	Apartment	Male	Car
61	High School	Finance	1	Urban	39	Married	Full-time	2	Own	Townhouse	Male	Biking
50	High School	Technology	4	Urban	9	Single	Part-time	4	Rent	Apartment	Female	Public transit
39	Bachelor's	Education	0	Urban	9	Single	Full-time	5	Own	Apartment	Male	Car
42	High School	Healthcare	1	Urban	39	Married	Self-employed	4	Rent	Apartment	Male	Walking
44	Bachelor's	Others	2	Urban	33	Married	Part-time	2	Own	Apartment	Female	Car
68	High School	Technology	4	Urban	24	Married	Part-time	7	Own	Apartment	Female	Car
26	Bachelor's	Technology	3	Urban	29	Married	Part-time	7	Rent	Townhouse	Male	Car
21	Bachelor's	Education	4	Urban	29	Married	Part-time	4	Own	Apartment	Female	Car

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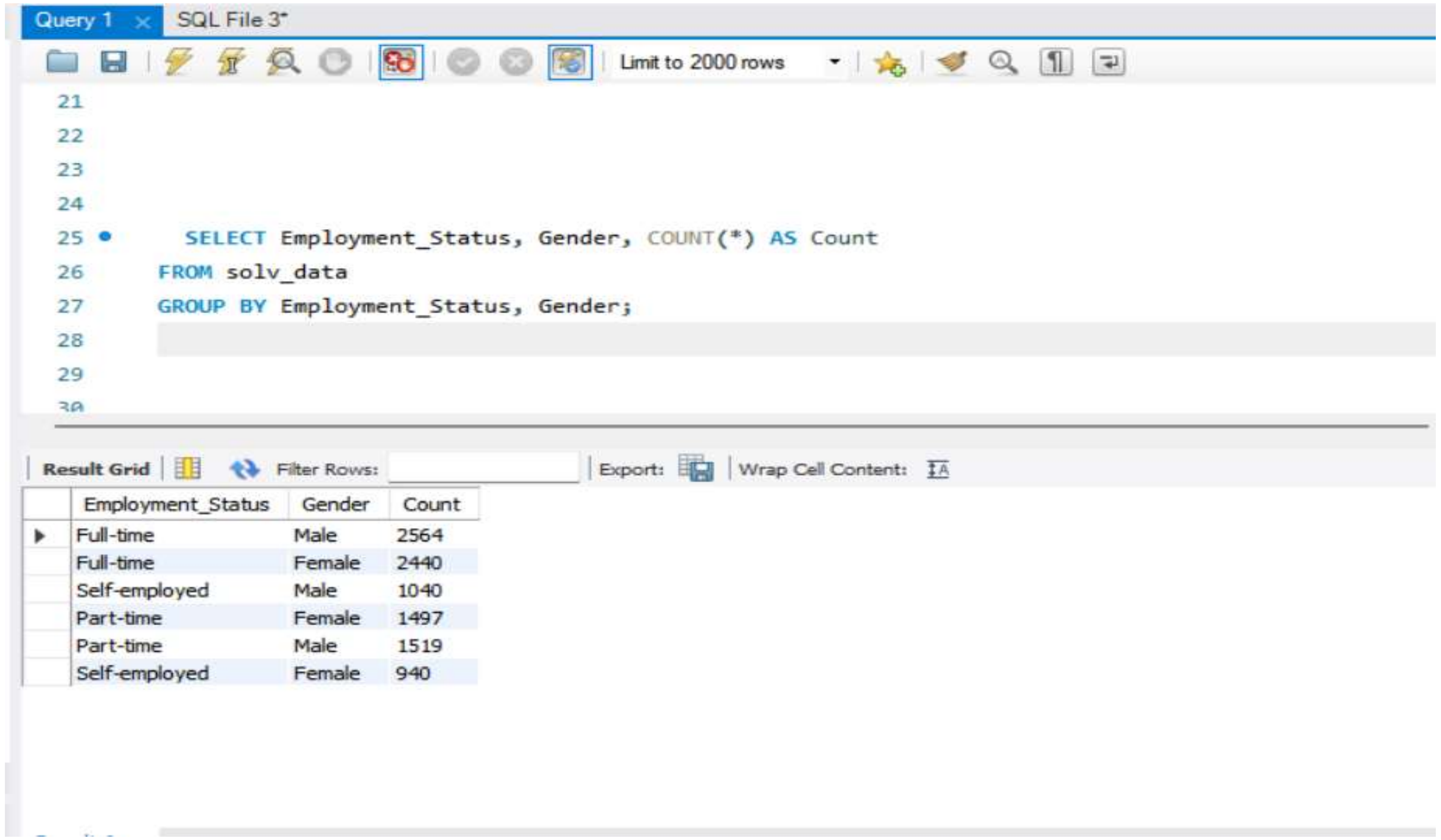
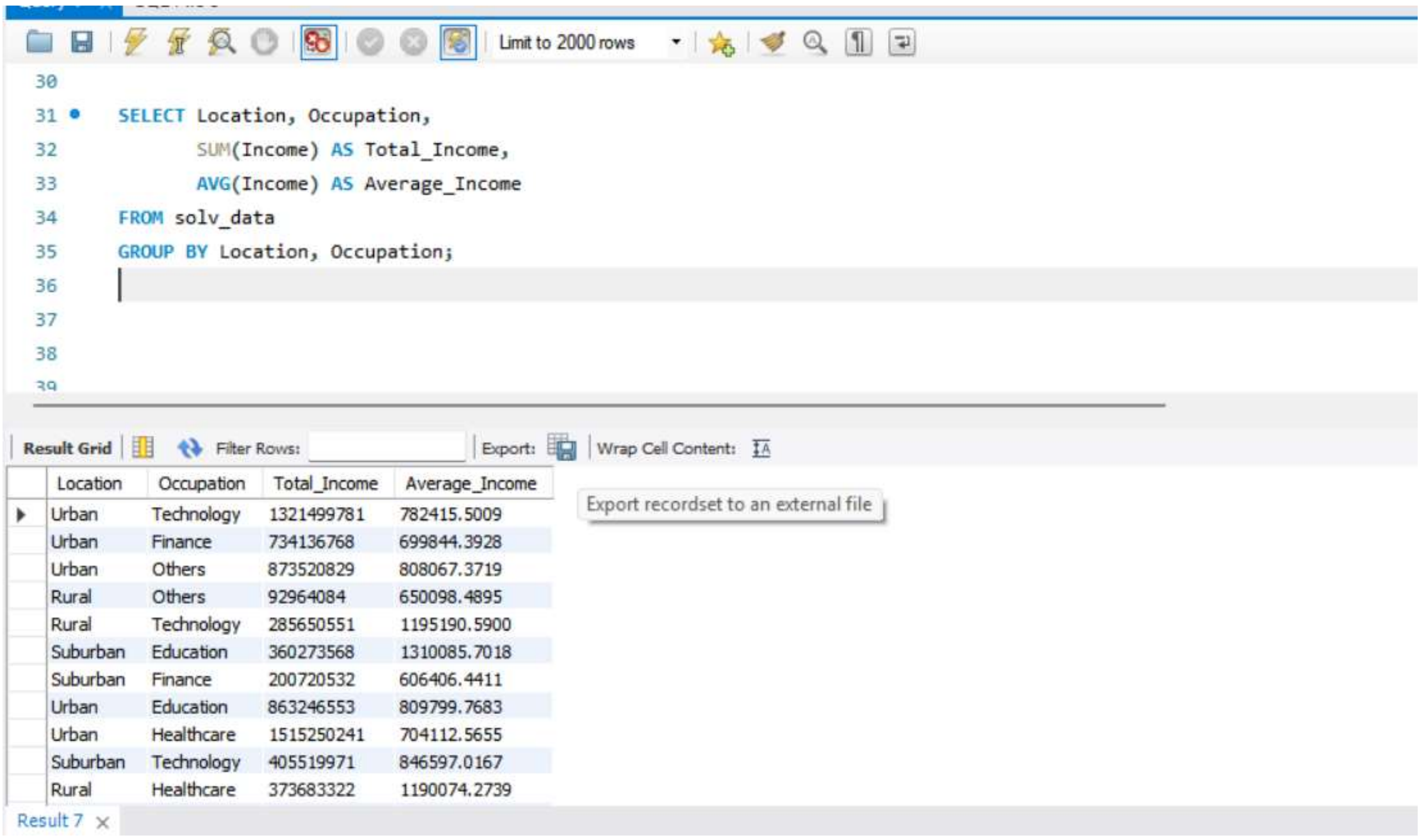
Count of males and females in each Employment_Status



```sql
  SELECT Employment_Status, Gender, COUNT(*) AS Count
FROM solv_data
GROUP BY Employment_Status, Gender;
```

Employment_Status	Gender	Count
Full-time	Male	2564
Full-time	Female	2440
Self-employed	Male	1040
Part-time	Female	1497
Part-time	Male	1519
Self-employed	Female	940

6 Total and average income by Location and Occupation



```
SELECT Location, Occupation,
        SUM(Income) AS Total_Income,
        AVG(Income) AS Average_Income
FROM solv_data
GROUP BY Location, Occupation;
```

Location	Occupation	Total_Income	Average_Income
Urban	Technology	1321499781	782415.5009
Urban	Finance	734136768	699844.3928
Urban	Others	873520829	808067.3719
Rural	Others	92964084	650098.4895
Rural	Technology	285650551	1195190.5900
Suburban	Education	360273568	1310085.7018
Suburban	Finance	200720532	606406.4411
Urban	Education	863246553	809799.7683
Urban	Healthcare	1515250241	704112.5655
Suburban	Technology	405519971	846597.0167
Rural	Healthcare	373683322	1190074.2739

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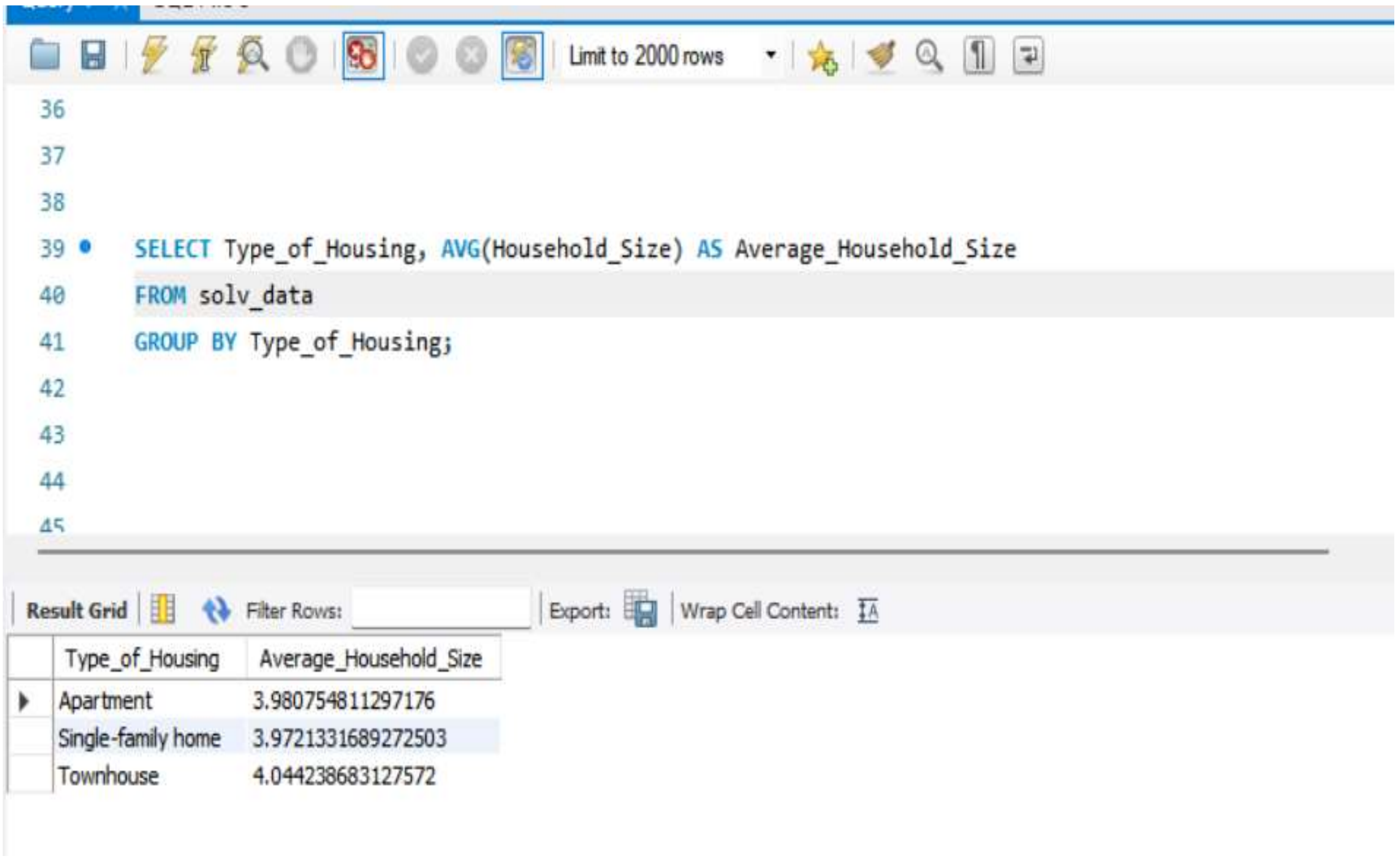
Average Household_Size grouped by Type_of_Housing



```
SELECT Type_of_Housing, AVG(Household_Size) AS Average_Household_Size
FROM solv_data
GROUP BY Type_of_Housing;
```

Type_of_Housing	Average_Household_Size
Apartment	3.980754811297176
Single-family home	3.9721331689272503
Townhouse	4.044238683127572

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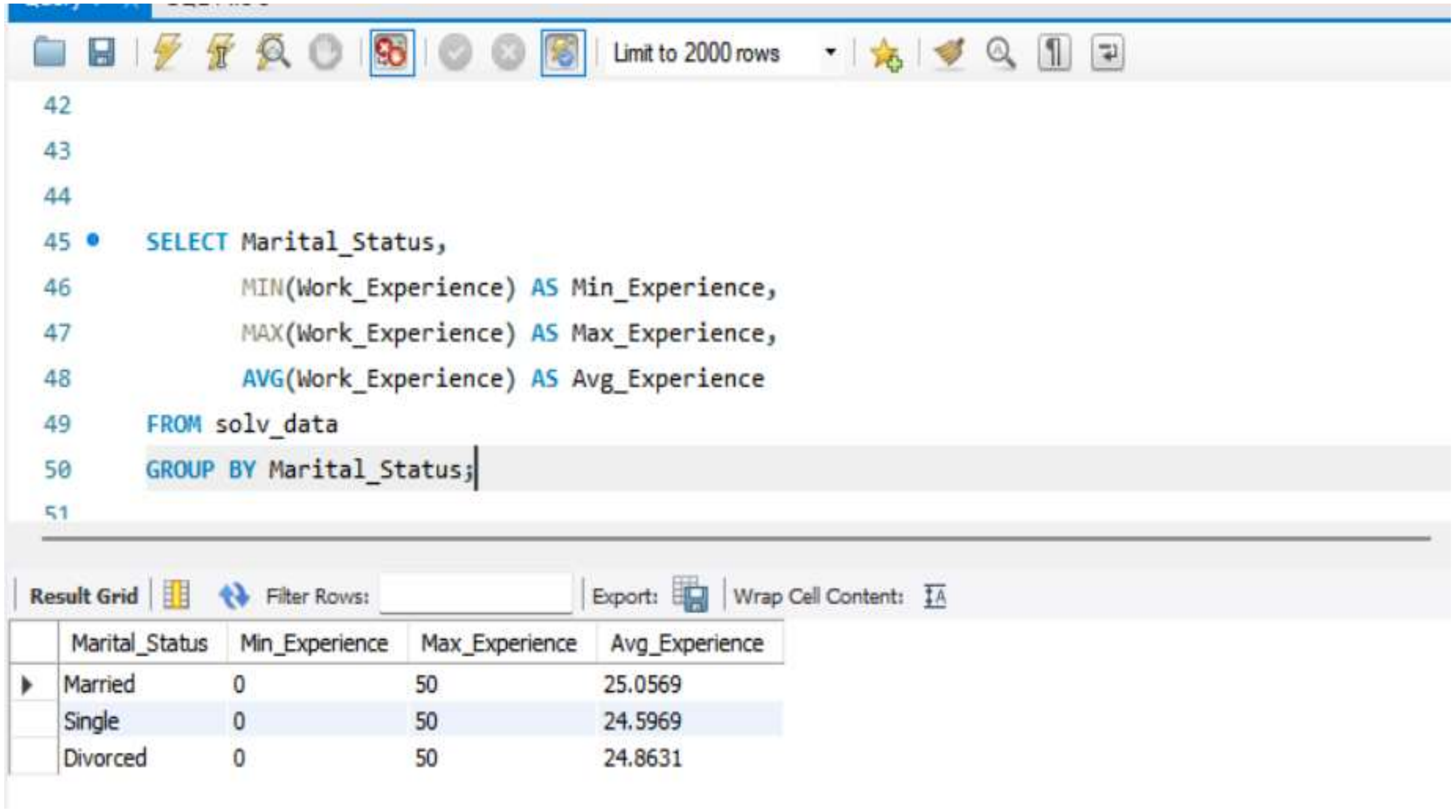
Min, Max, and Avg Work_Experience for each Marital_Status



```
SELECT Marital_Status,
       MIN(Work_Experience) AS Min_Experience,
       MAX(Work_Experience) AS Max_Experience,
       AVG(Work_Experience) AS Avg_Experience
FROM solv_data
GROUP BY Marital_Status;
```

Marital_Status	Min_Experience	Max_Experience	Avg_Experience
Married	0	50	25.0569
Single	0	50	24.5969
Divorced	0	50	24.8631

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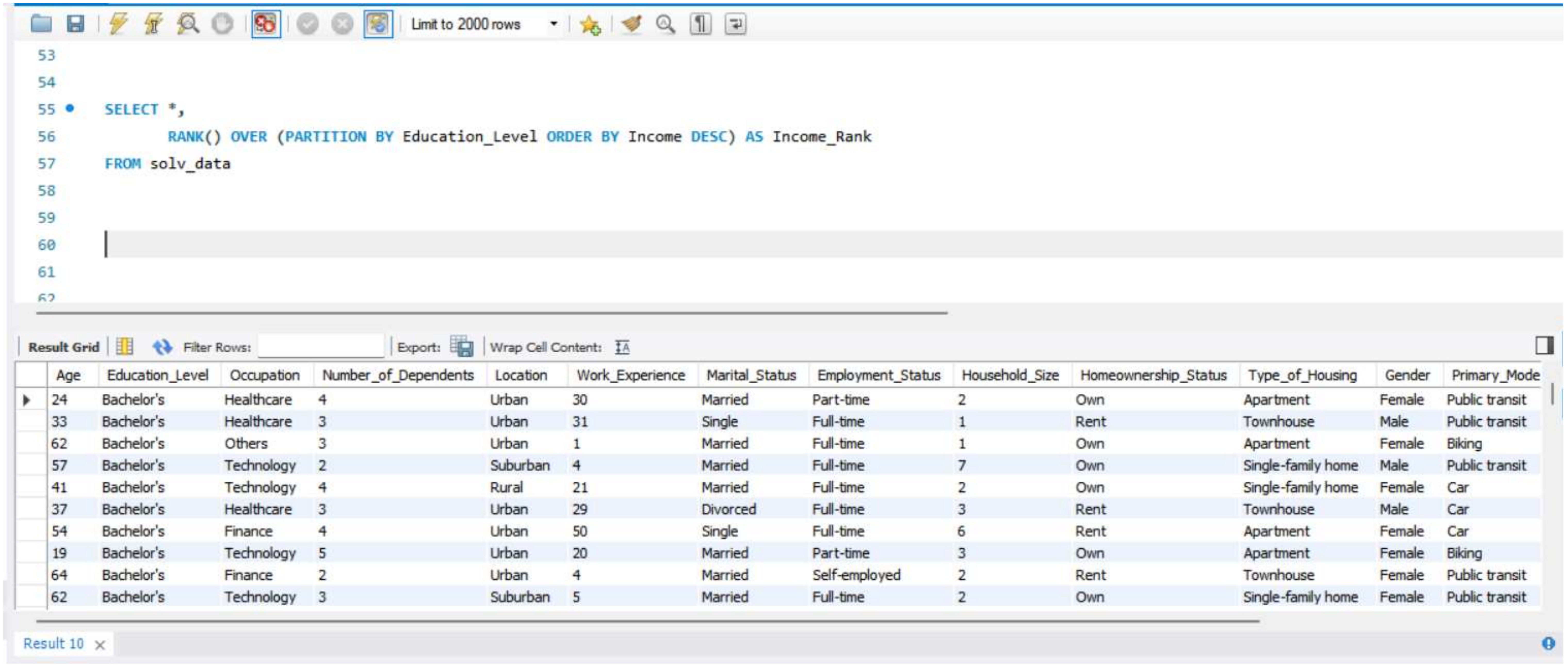
Rank individuals by Income within each Education_Level



```
SELECT *,
          RANK() OVER (PARTITION BY Education_Level ORDER BY Income DESC) AS Income_Rank
FROM solv_data
```

Age	Education_Level	Occupation	Number_of_Dependents	Location	Work_Experience	Marital_Status	Employment_Status	Household_Size	Homeownership_Status	Type_of_Housing	Gender	Primary_Mode
24	Bachelor's	Healthcare	4	Urban	30	Married	Part-time	2	Own	Apartment	Female	Public transit
33	Bachelor's	Healthcare	3	Urban	31	Single	Full-time	1	Rent	Townhouse	Male	Public transit
62	Bachelor's	Others	3	Urban	1	Married	Full-time	1	Own	Apartment	Female	Biking
57	Bachelor's	Technology	2	Suburban	4	Married	Full-time	7	Own	Single-family home	Male	Public transit
41	Bachelor's	Technology	4	Rural	21	Married	Full-time	2	Own	Single-family home	Female	Car
37	Bachelor's	Healthcare	3	Urban	29	Divorced	Full-time	3	Rent	Townhouse	Male	Car
54	Bachelor's	Finance	4	Urban	50	Single	Full-time	6	Rent	Apartment	Female	Car
19	Bachelor's	Technology	5	Urban	20	Married	Part-time	3	Own	Apartment	Female	Biking
64	Bachelor's	Finance	2	Urban	4	Married	Self-employed	2	Rent	Townhouse	Female	Public transit
62	Bachelor's	Technology	3	Suburban	5	Married	Full-time	2	Own	Single-family home	Female	Public transit

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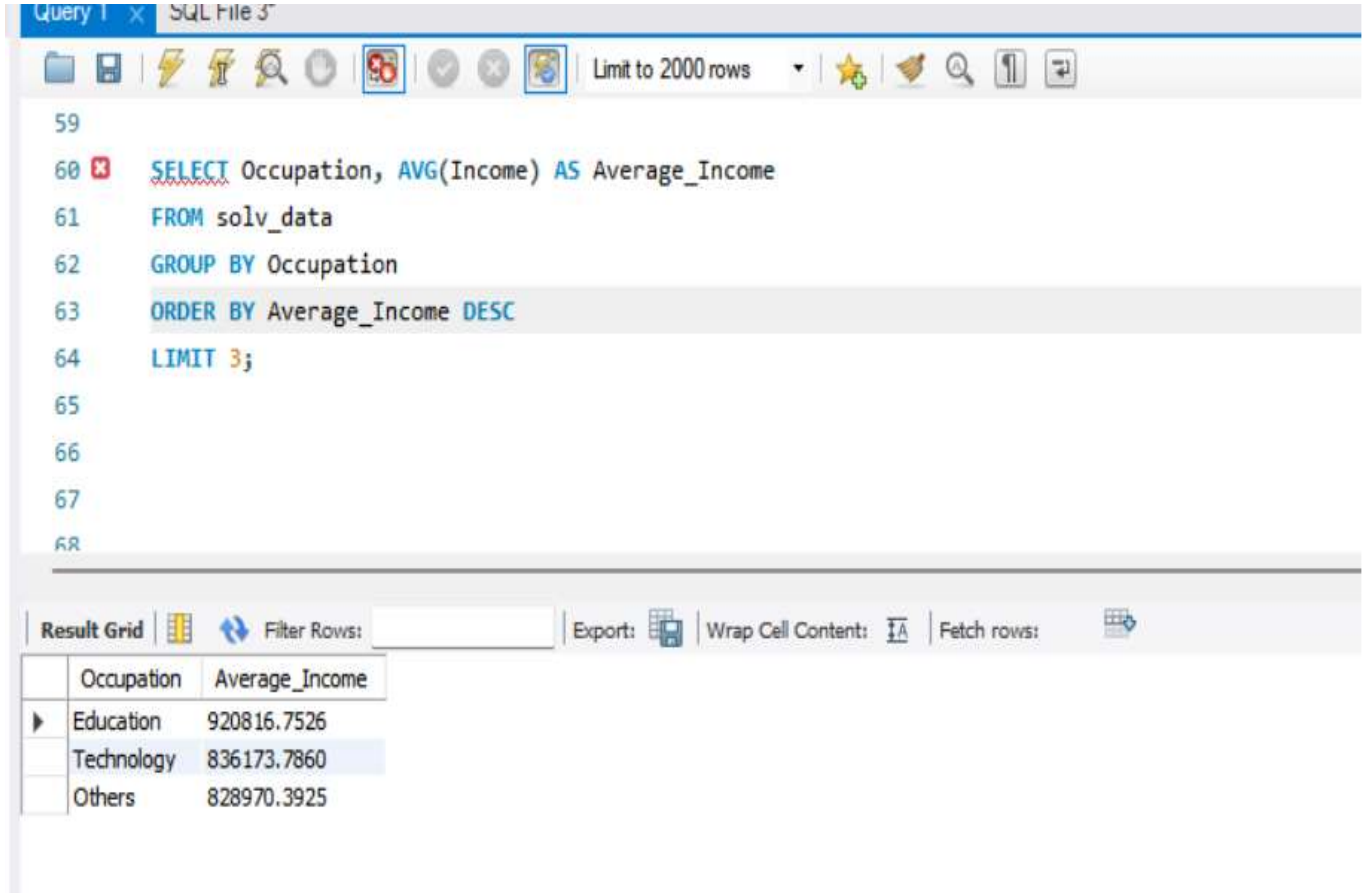
Top 3 Occupation types with highest average income



```sql
SELECT Occupation, AVG(Income) AS Average_Income
FROM solv_data
GROUP BY Occupation
ORDER BY Average_Income DESC
LIMIT 3;
```

```
Occupation    Average_Income
Education     920816.7526
Technology    836173.7860
Others        828970.3925
```

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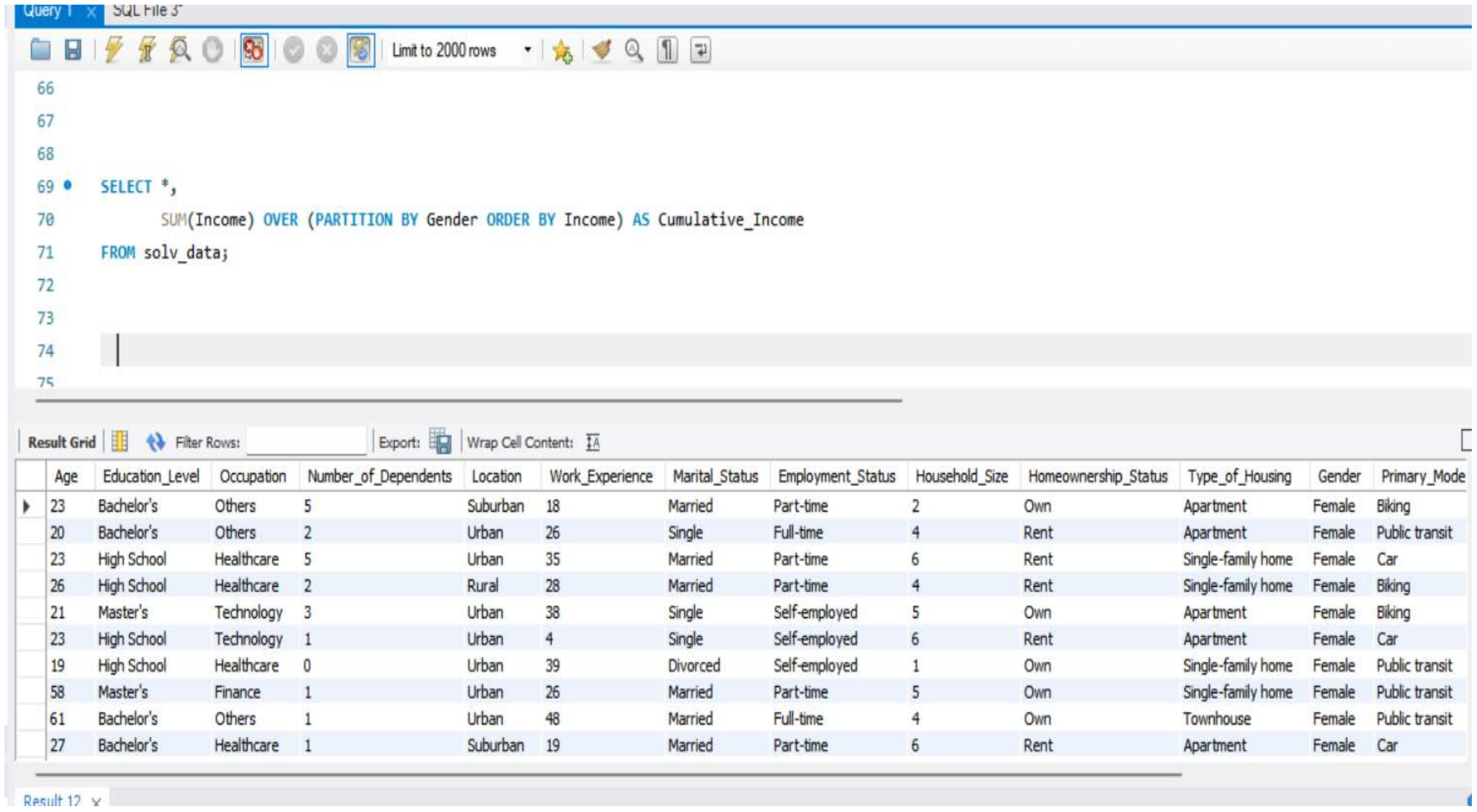
Cumulative income for each Gender using window function



```sql
SELECT *,
       SUM(Income) OVER (PARTITION BY Gender ORDER BY Income) AS Cumulative_Income
FROM solv_data;
```

Age	Education_Level	Occupation	Number_of_Dependents	Location	Work_Experience	Marital_Status	Employment_Status	Household_Size	Homeownership_Status	Type_of_Housing	Gender	Primary_Mode
23	Bachelor's	Others	5	Suburban	18	Married	Part-time	2	Own	Apartment	Female	Biking
20	Bachelor's	Others	2	Urban	26	Single	Full-time	4	Rent	Apartment	Female	Public transit
23	High School	Healthcare	5	Urban	35	Married	Part-time	6	Rent	Single-family home	Female	Car
26	High School	Healthcare	2	Rural	28	Married	Part-time	4	Rent	Single-family home	Female	Biking
21	Master's	Technology	3	Urban	38	Single	Self-employed	5	Own	Apartment	Female	Biking
23	High School	Technology	1	Urban	4	Single	Self-employed	6	Rent	Apartment	Female	Car
19	High School	Healthcare	0	Urban	39	Divorced	Self-employed	1	Own	Single-family home	Female	Public transit
58	Master's	Finance	1	Urban	26	Married	Part-time	5	Own	Single-family home	Female	Public transit
61	Bachelor's	Others	1	Urban	48	Married	Full-time	4	Own	Townhouse	Female	Public transit
27	Bachelor's	Healthcare	1	Suburban	19	Married	Part-time	6	Rent	Apartment	Female	Car

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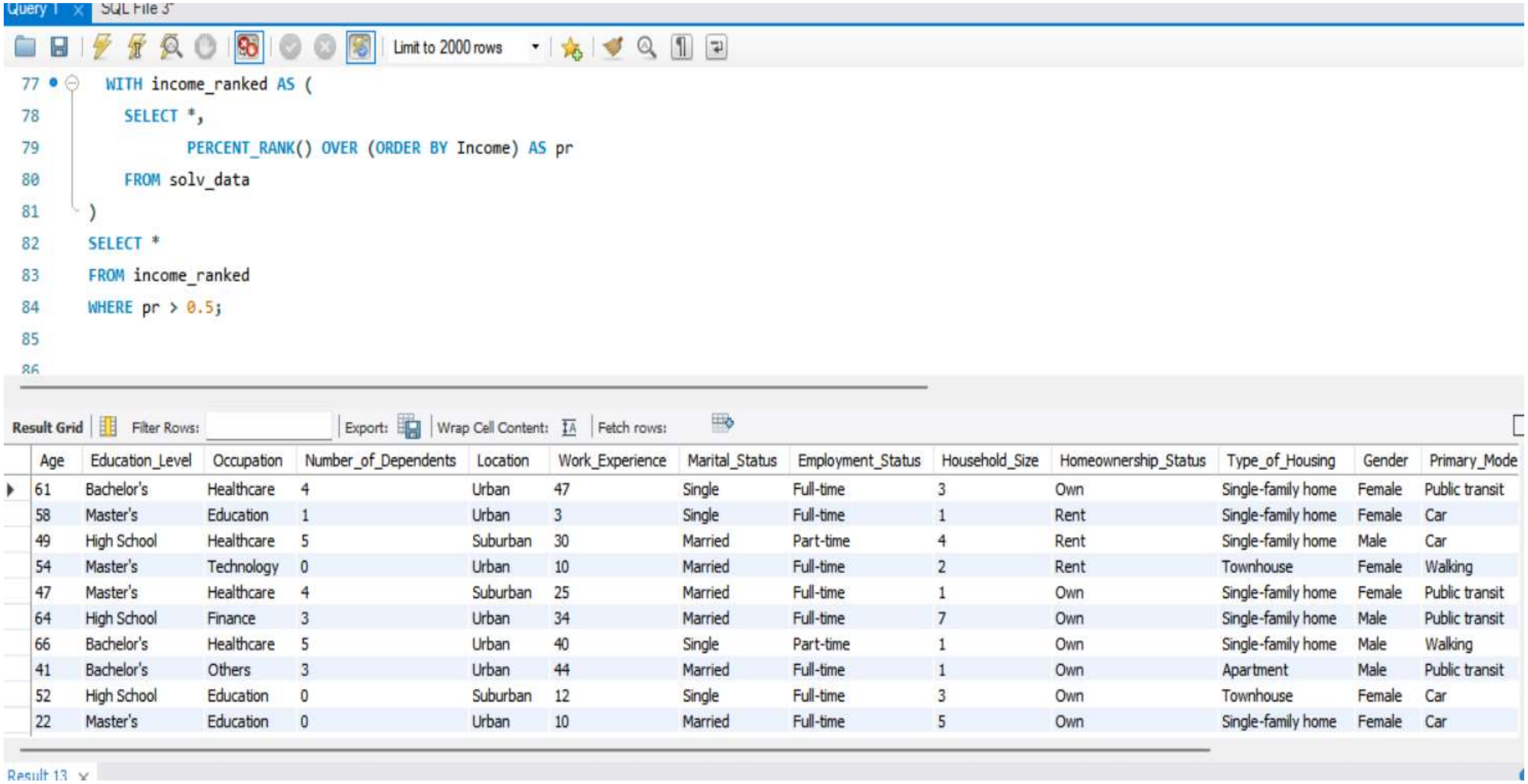
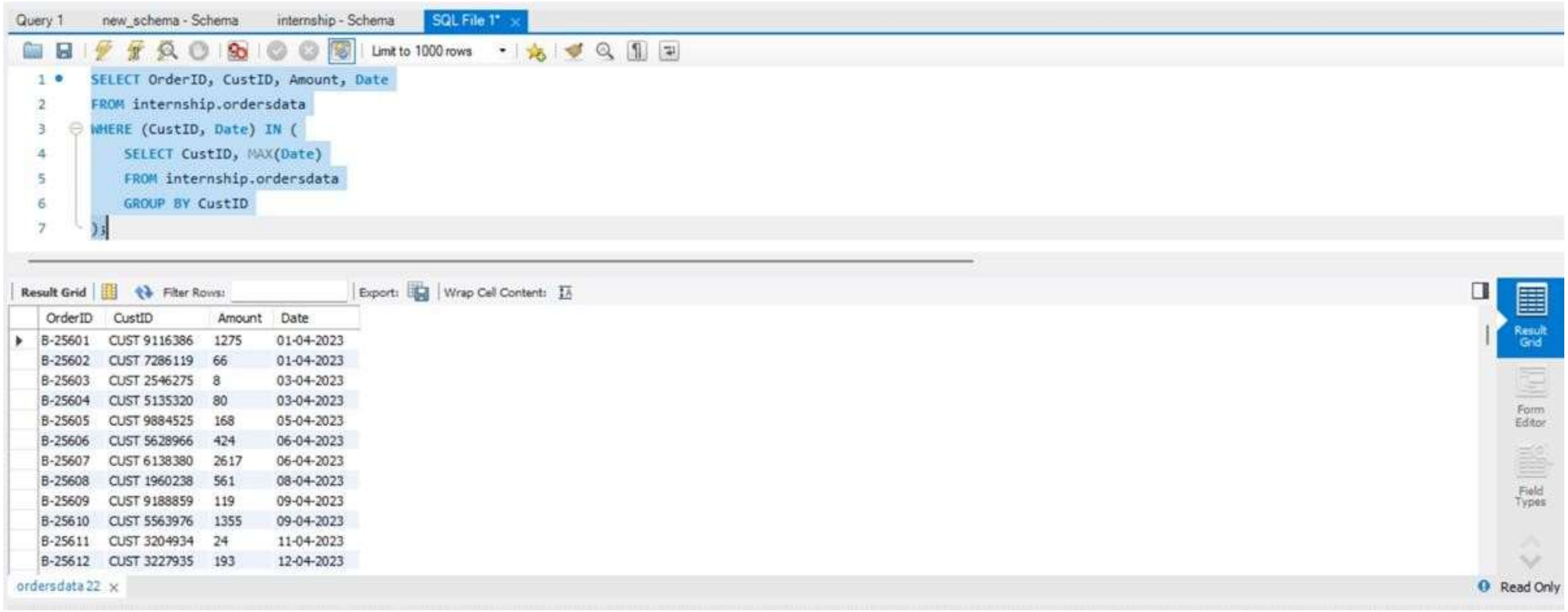
List people whose income is above the median income



```
WITH income_ranked AS (
   SELECT *,
          PERCENT_RANK() OVER (ORDER BY Income) AS pr
   FROM solv_data
)
SELECT *
FROM income_ranked
WHERE pr > 0.5;
```

Age	Education_Level	Occupation	Number_of_Dependents	Location	Work_Experience	Marital_Status	Employment_Status	Household_Size	Homeownership_Status	Type_of_Housing	Gender	Primary_Mode
61	Bachelor's	Healthcare	4	Urban	47	Single	Full-time	3	Own	Single-family home	Female	Public transit
58	Master's	Education	1	Urban	3	Single	Full-time	1	Rent	Single-family home	Female	Car
49	High School	Healthcare	5	Suburban	30	Married	Part-time	4	Rent	Single-family home	Male	Car
54	Master's	Technology	0	Urban	10	Married	Full-time	2	Rent	Townhouse	Female	Walking
47	Master's	Healthcare	4	Suburban	25	Married	Full-time	1	Own	Single-family home	Female	Public transit
64	High School	Finance	3	Urban	34	Married	Full-time	7	Own	Single-family home	Male	Public transit
66	Bachelor's	Healthcare	5	Urban	40	Single	Part-time	1	Own	Single-family home	Male	Walking
41	Bachelor's	Others	3	Urban	44	Married	Full-time	1	Own	Apartment	Male	Public transit
52	High School	Education	0	Suburban	12	Single	Full-time	3	Own	Townhouse	Female	Car
22	Master's	Education	0	Urban	10	Married	Full-time	5	Own	Single-family home	Female	Car

17 **Show the latest order for each customer.**


Query 1 new_schema - Schema internship - Schema SQL File 1*

Limit to 1000 rows

```
SELECT OrderID, CustID, Amount, Date
FROM internship.ordersdata
WHERE (CustID, Date) IN (
    SELECT CustID, MAX(Date)
    FROM internship.ordersdata
    GROUP BY CustID
);
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

OrderID	CustID	Amount	Date
B-25601	CUST 9116386	1275	01-04-2023
B-25602	CUST 7286119	66	01-04-2023
B-25603	CUST 2546275	8	03-04-2023
B-25604	CUST 5135320	80	03-04-2023
B-25605	CUST 9884525	168	05-04-2023
B-25606	CUST 5628966	424	06-04-2023
B-25607	CUST 6138380	2617	06-04-2023
B-25608	CUST 1960238	561	08-04-2023
B-25609	CUST 9188859	119	09-04-2023
B-25610	CUST 5563976	1355	09-04-2023
B-25611	CUST 3204934	24	11-04-2023
B-25612	CUST 3227935	193	12-04-2023

Conclusion

Through this SQL-based exploration of the ordersdata table, I gained hands-on experience in extracting, filtering, grouping, and summarizing data effectively. By writing and analyzing 20 different queries, I was able to:

- Understand Customer Behaviour
- Analyse Sales Performance
- Evaluate Operational Status
- Demographic and Geographic Insights
- Category and Channel Analysis:

Key Takeaways:

•SQL is a powerful tool to perform deep data analysis with precision.
•Writing queries helped me understand the **structure and relationships** within the dataset.
•These insights can be leveraged for business decisions like **targeted marketing**, **inventory planning**, and **customer segmentation**.
•Data exploration using SQL lays the foundation for more advanced analytics and visualization in tools like Power BI or Tableau.

Thank You

Done by Prakash samera
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