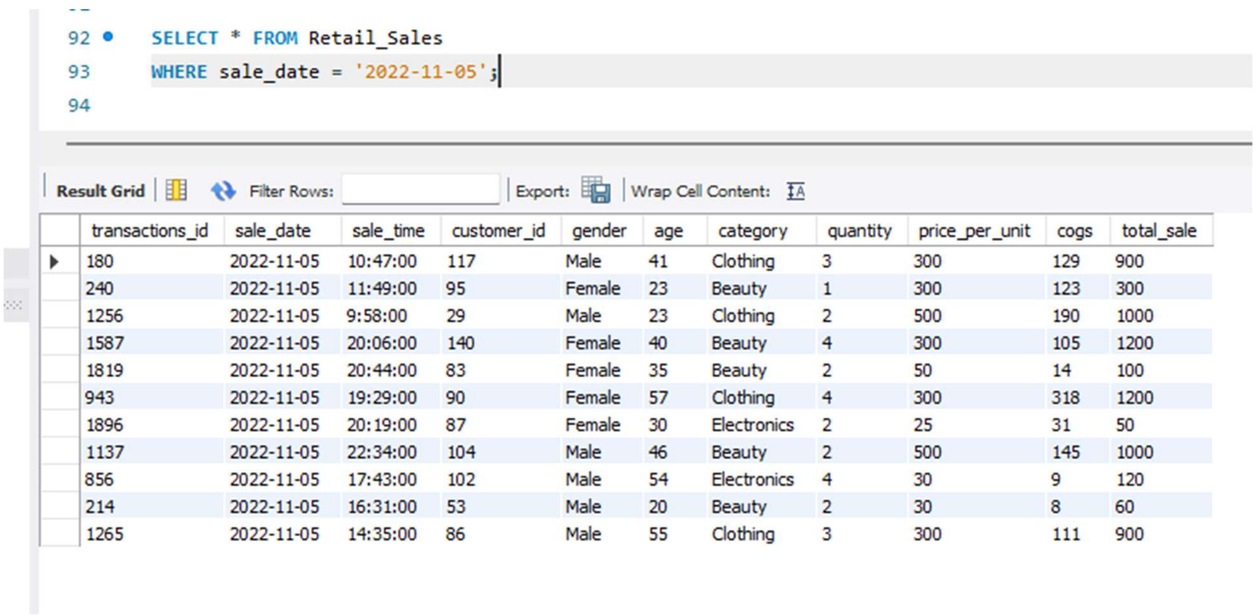
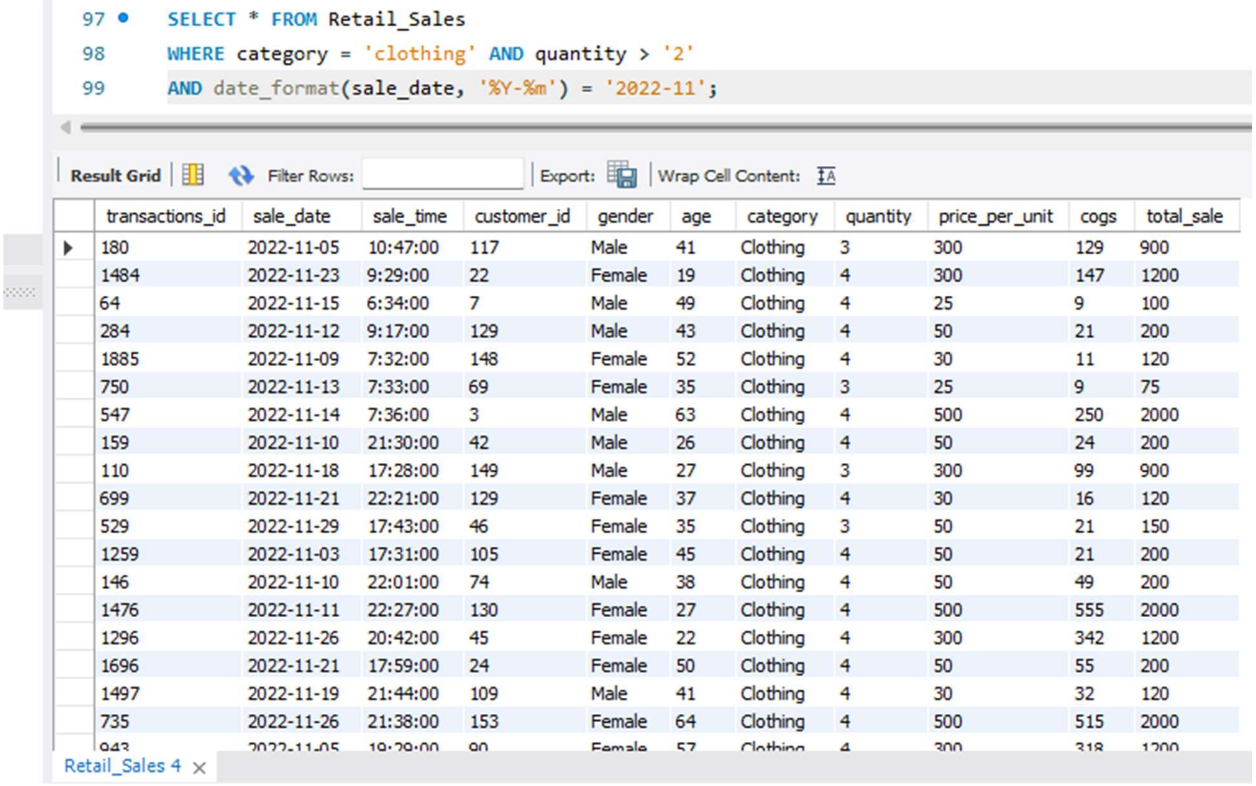
Retrieve all columns for sales made on '2022-11-05'



```
SELECT * FROM Retail_Sales
WHERE sale_date = '2022-11-05';
```

transactions_id	sale_date	sale_time	customer_id	gender	age	category	quantity	price_per_unit	cogs	total_sale
180	2022-11-05	10:47:00	117	Male	41	Clothing	3	300	129	900
240	2022-11-05	11:49:00	95	Female	23	Beauty	1	300	123	300
1256	2022-11-05	9:58:00	29	Male	23	Clothing	2	500	190	1000
1587	2022-11-05	20:06:00	140	Female	40	Beauty	4	300	105	1200
1819	2022-11-05	20:44:00	83	Female	35	Beauty	2	50	14	100
943	2022-11-05	19:29:00	90	Female	57	Clothing	4	300	318	1200
1896	2022-11-05	20:19:00	87	Female	30	Electronics	2	25	31	50
1137	2022-11-05	22:34:00	104	Male	46	Beauty	2	500	145	1000
856	2022-11-05	17:43:00	102	Male	54	Electronics	4	30	9	120
214	2022-11-05	16:31:00	53	Male	20	Beauty	2	30	8	60
1265	2022-11-05	14:35:00	86	Male	55	Clothing	3	300	111	900

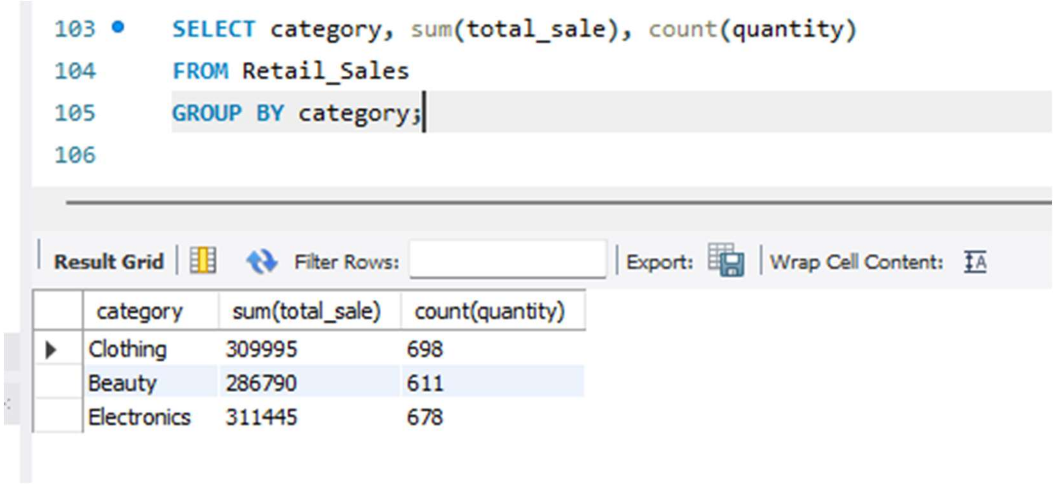
Retrieve all transactions where the category is 'Clothing' and the quantity sold is more than 2 in the month of 'Nov-2022'



```
SELECT * FROM Retail_Sales
WHERE category = 'clothing' AND quantity > '2'
AND date_format(sale_date, '%Y-%m') = '2022-11';
```

transactions_id	sale_date	sale_time	customer_id	gender	age	category	quantity	price_per_unit	cogs	total_sale
180	2022-11-05	10:47:00	117	Male	41	Clothing	3	300	129	900
1484	2022-11-23	9:29:00	22	Female	19	Clothing	4	300	147	1200
64	2022-11-15	6:34:00	7	Male	49	Clothing	4	25	9	100
284	2022-11-12	9:17:00	129	Male	43	Clothing	4	50	21	200
1885	2022-11-09	7:32:00	148	Female	52	Clothing	4	30	11	120
750	2022-11-13	7:33:00	69	Female	35	Clothing	3	25	9	75
547	2022-11-14	7:36:00	3	Male	63	Clothing	4	500	250	2000
159	2022-11-10	21:30:00	42	Male	26	Clothing	4	50	24	200
110	2022-11-18	17:28:00	149	Male	27	Clothing	3	300	99	900
699	2022-11-21	22:21:00	129	Female	37	Clothing	4	30	16	120
529	2022-11-29	17:43:00	46	Female	35	Clothing	3	50	21	150
1259	2022-11-03	17:31:00	105	Female	45	Clothing	4	50	21	200
146	2022-11-10	22:01:00	74	Male	38	Clothing	4	50	49	200
1476	2022-11-11	22:27:00	130	Female	27	Clothing	4	500	555	2000
1296	2022-11-26	20:42:00	45	Female	22	Clothing	4	300	342	1200
1696	2022-11-21	17:59:00	24	Female	50	Clothing	4	50	55	200
1497	2022-11-19	21:44:00	109	Male	41	Clothing	4	30	32	120
735	2022-11-26	21:38:00	153	Female	64	Clothing	4	500	515	2000
943	2022-11-05	19:29:00	90	Female	57	Clothing	4	300	318	1200

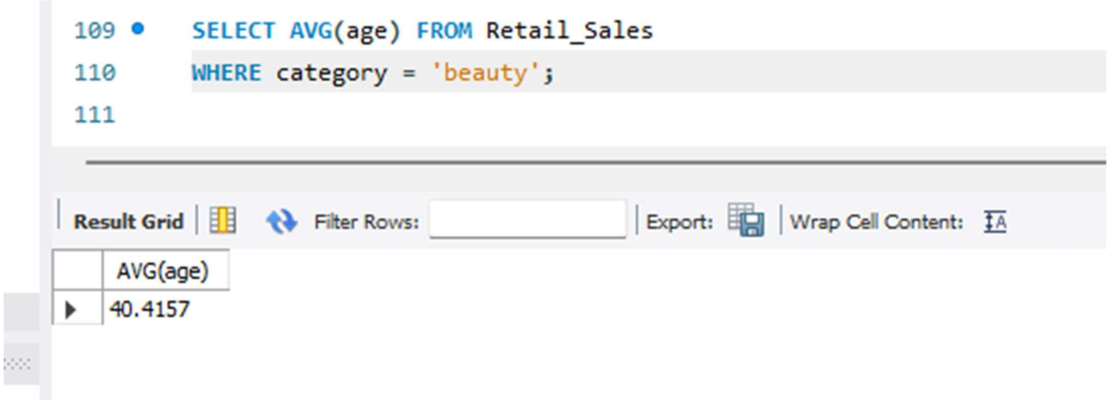
Calculate the total sales (total_sale) for each category



```sql
SELECT category, sum(total_sale), count(quantity)
FROM Retail_Sales
GROUP BY category;
```

category	sum(total_sale)	count(quantity)
Clothing	309995	698
Beauty	286790	611
Electronics	311445	678

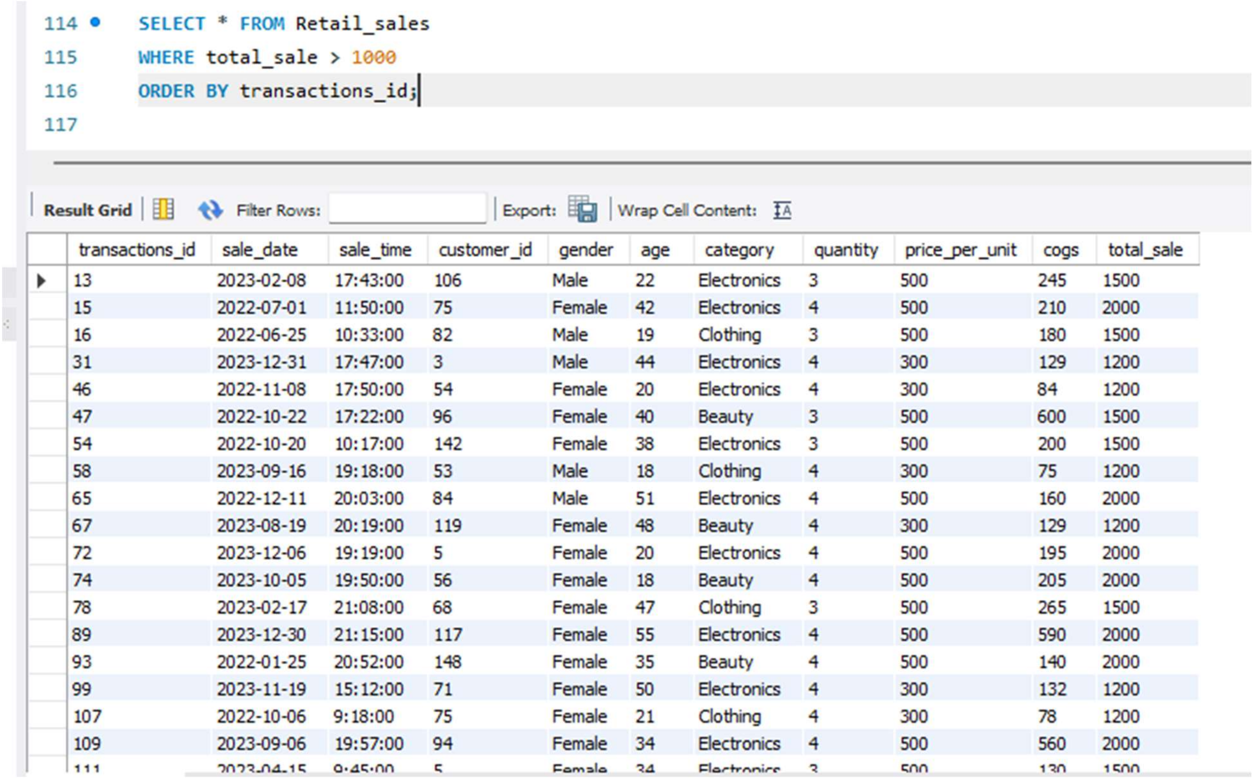
Find the average age of customers who purchased items from the 'Beauty' category



```sql
SELECT AVG(age) FROM Retail_Sales
WHERE category = 'beauty';
```

AVG(age)
40.4157

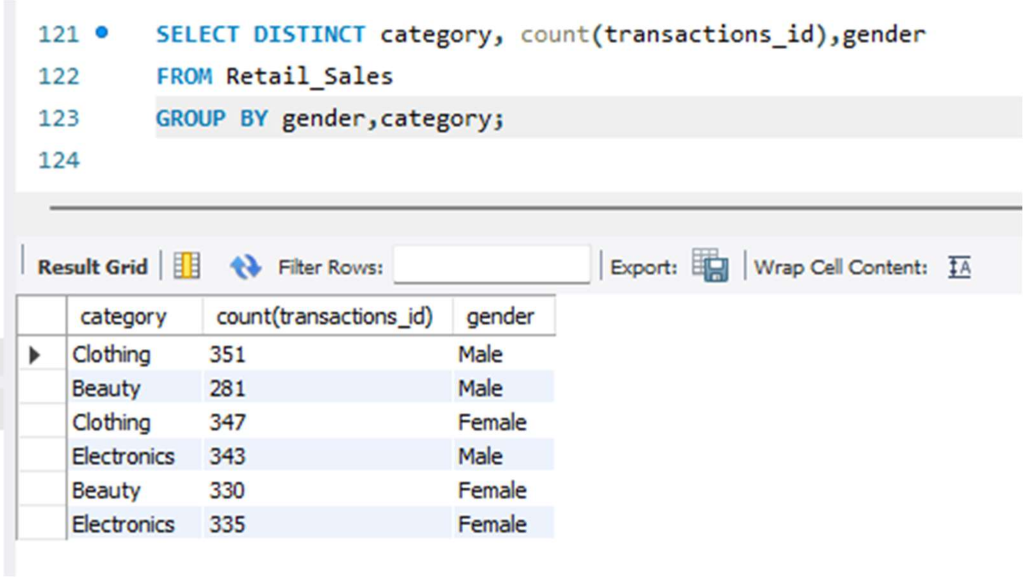
Find all transactions where the total_sale is greater than 1000



```sql
SELECT * FROM Retail_sales
WHERE total_sale > 1000
ORDER BY transactions_id;
```

transactions_id	sale_date	sale_time	customer_id	gender	age	category	quantity	price_per_unit	cogs	total_sale
13	2023-02-08	17:43:00	106	Male	22	Electronics	3	500	245	1500
15	2022-07-01	11:50:00	75	Female	42	Electronics	4	500	210	2000
16	2022-06-25	10:33:00	82	Male	19	Clothing	3	500	180	1500
31	2023-12-31	17:47:00	3	Male	44	Electronics	4	300	129	1200
46	2022-11-08	17:50:00	54	Female	20	Electronics	4	300	84	1200
47	2022-10-22	17:22:00	96	Female	40	Beauty	3	500	600	1500
54	2022-10-20	10:17:00	142	Female	38	Electronics	3	500	200	1500
58	2023-09-16	19:18:00	53	Male	18	Clothing	4	300	75	1200
65	2022-12-11	20:03:00	84	Male	51	Electronics	4	500	160	2000
67	2023-08-19	20:19:00	119	Female	48	Beauty	4	300	129	1200
72	2023-12-06	19:19:00	5	Female	20	Electronics	4	500	195	2000
74	2023-10-05	19:50:00	56	Female	18	Beauty	4	500	205	2000
78	2023-02-17	21:08:00	68	Female	47	Clothing	3	500	265	1500
89	2023-12-30	21:15:00	117	Female	55	Electronics	4	500	590	2000
93	2022-01-25	20:52:00	148	Female	35	Beauty	4	500	140	2000
99	2023-11-19	15:12:00	71	Female	50	Electronics	4	300	132	1200
107	2022-10-06	9:18:00	75	Female	21	Clothing	4	300	78	1200
109	2023-09-06	19:57:00	94	Female	34	Electronics	4	500	560	2000
111	2023-04-15	9:45:00	5	Female	34	Electronics	3	500	130	1500

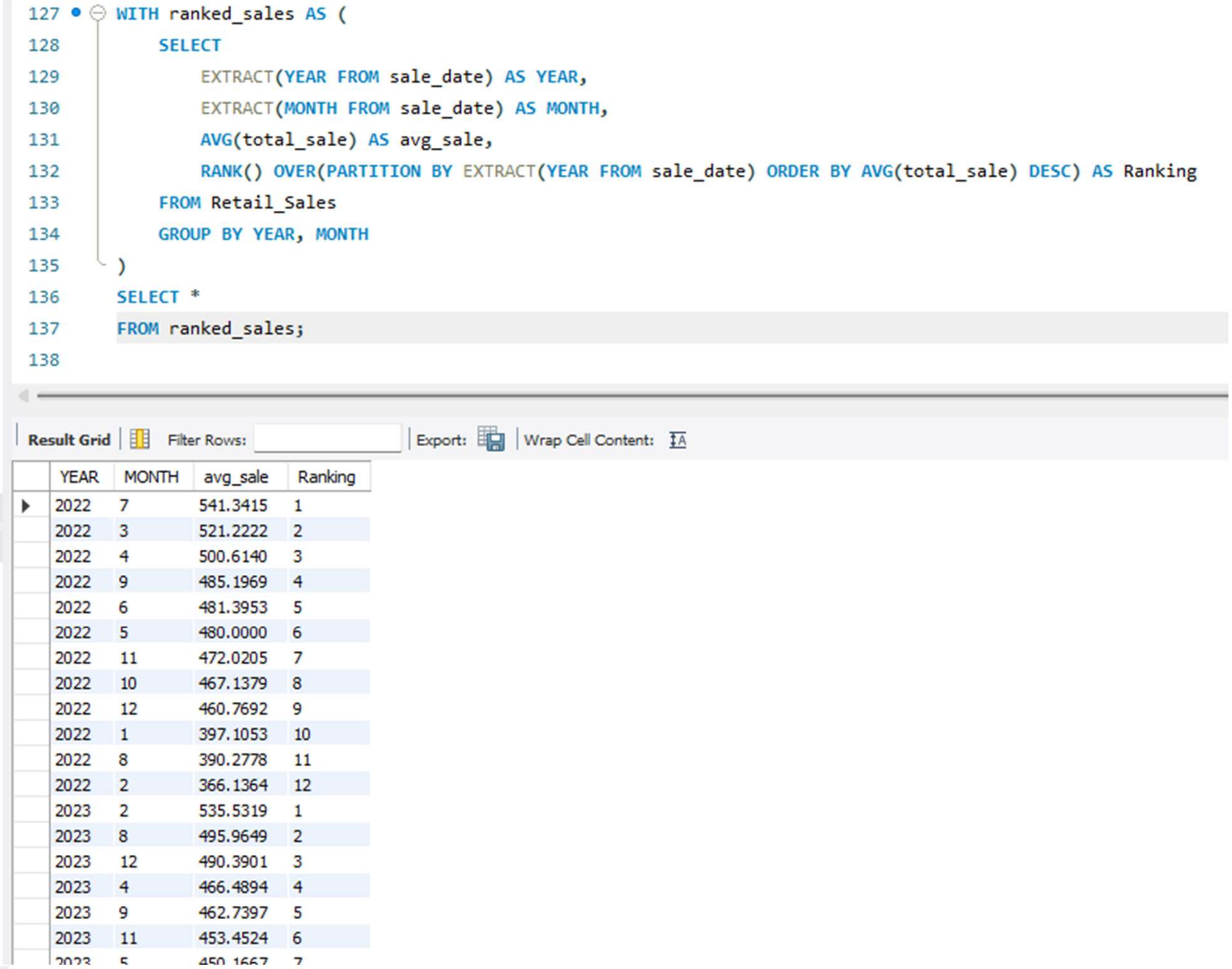
Find the total number of transactions (transaction_id) made by each gender in each category



```sql
SELECT DISTINCT category, count(transactions_id),gender
FROM Retail_Sales
GROUP BY gender,category;
```

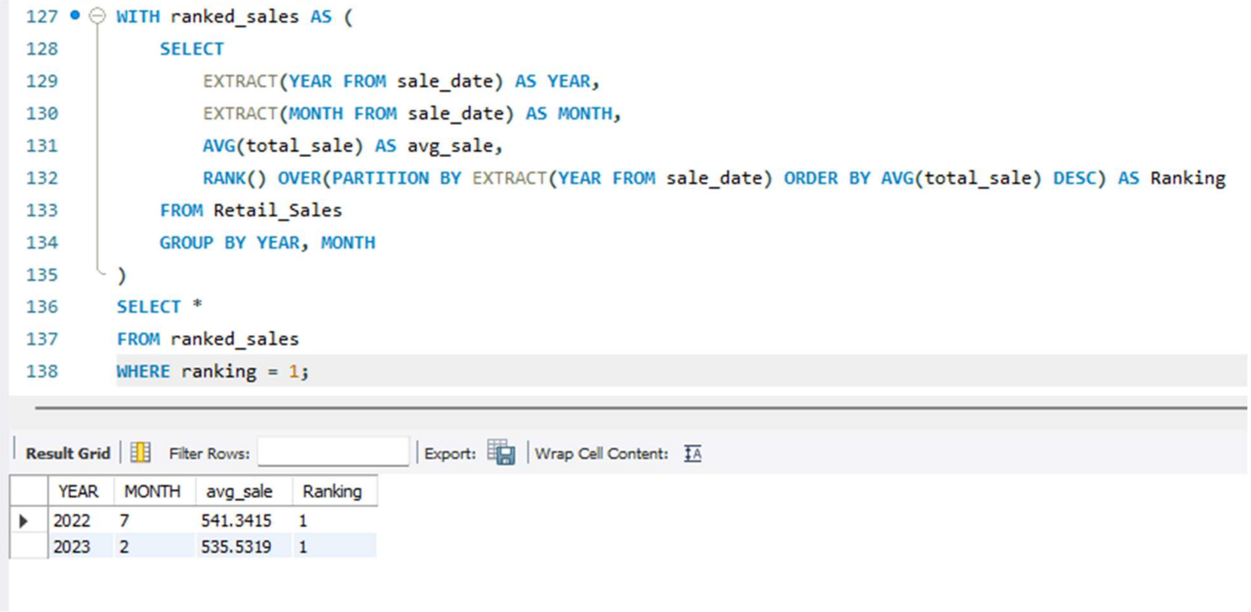
category	count(transactions_id)	gender
Clothing	351	Male
Beauty	281	Male
Clothing	347	Female
Electronics	343	Male
Beauty	330	Female
Electronics	335	Female

Calculate the average sale for each month. Find out best selling month in each year



```sql
WITH ranked_sales AS (
    SELECT
        EXTRACT(YEAR FROM sale_date) AS YEAR,
        EXTRACT(MONTH FROM sale_date) AS MONTH,
        AVG(total_sale) AS avg_sale,
        RANK() OVER(PARTITION BY EXTRACT(YEAR FROM sale_date) ORDER BY AVG(total_sale) DESC) AS Ranking
    FROM Retail_Sales
    GROUP BY YEAR, MONTH
)
SELECT *
FROM ranked_sales;
```

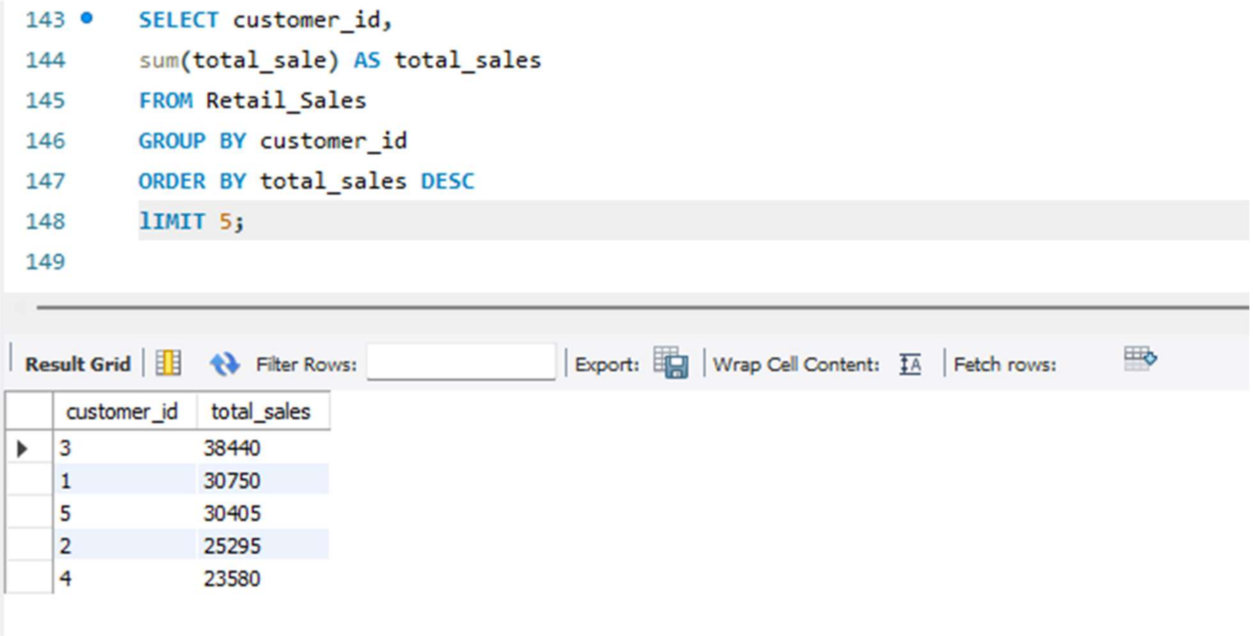
YEAR	MONTH	avg_sale	Ranking
2022	7	541.3415	1
2022	3	521.2222	2
2022	4	500.6140	3
2022	9	485.1969	4
2022	6	481.3953	5
2022	5	480.0000	6
2022	11	472.0205	7
2022	10	467.1379	8
2022	12	460.7692	9
2022	1	397.1053	10
2022	8	390.2778	11
2022	2	366.1364	12
2023	2	535.5319	1
2023	8	495.9649	2
2023	12	490.3901	3
2023	4	466.4894	4
2023	9	462.7397	5
2023	11	453.4524	6
2023	5	450.1667	7



```sql
WITH ranked_sales AS (
    SELECT
        EXTRACT(YEAR FROM sale_date) AS YEAR,
        EXTRACT(MONTH FROM sale_date) AS MONTH,
        AVG(total_sale) AS avg_sale,
        RANK() OVER(PARTITION BY EXTRACT(YEAR FROM sale_date) ORDER BY AVG(total_sale) DESC) AS Ranking
    FROM Retail_Sales
    GROUP BY YEAR, MONTH
)
SELECT *
FROM ranked_sales
WHERE ranking = 1;
```

YEAR	MONTH	avg_sale	Ranking
2022	7	541.3415	1
2023	2	535.5319	1

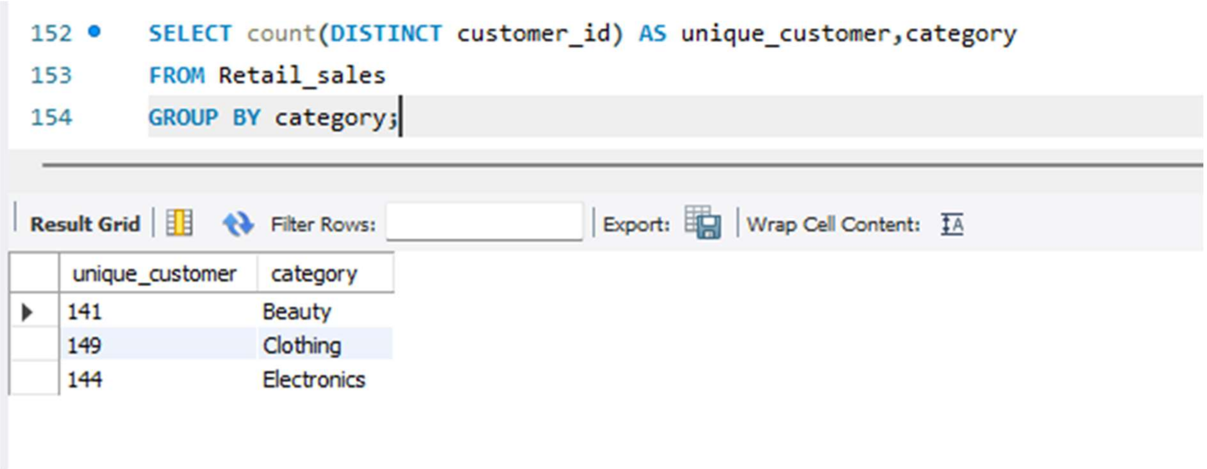
Find the top 5 customers based on the highest total sales



```sql
SELECT customer_id,
sum(total_sale) AS total_sales
FROM Retail_Sales
GROUP BY customer_id
ORDER BY total_sales DESC
lIMIT 5;
```

customer_id	total_sales
3	38440
1	30750
5	30405
2	25295
4	23580

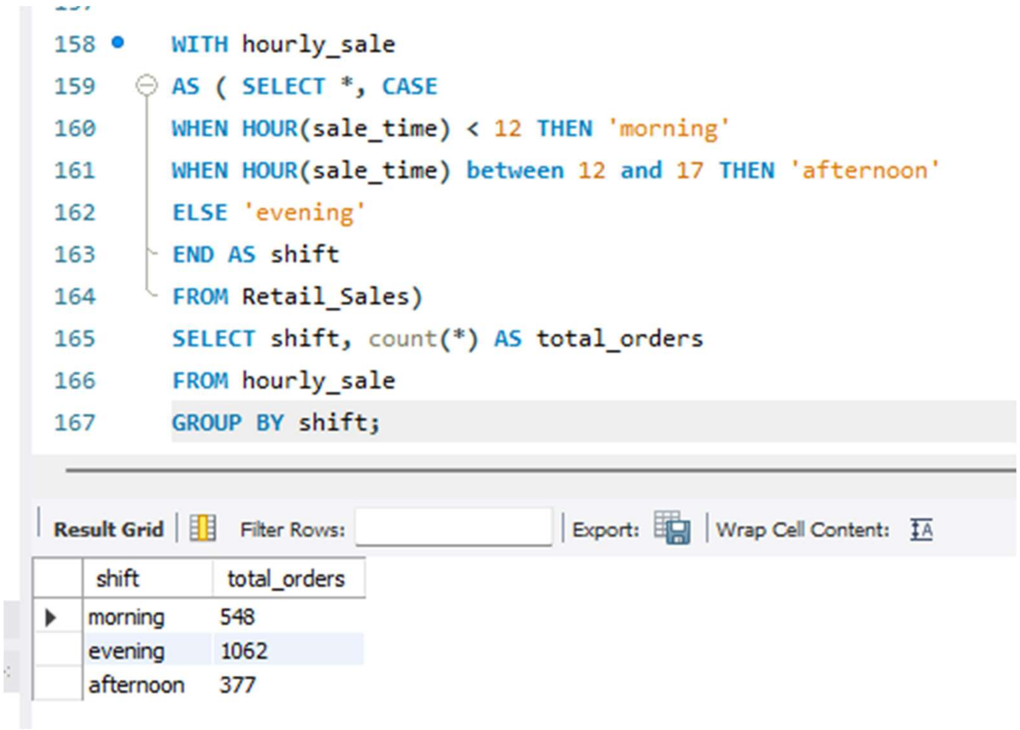
Find the number of unique customers who purchased items from each category



```sql
SELECT count(DISTINCT customer_id) AS unique_customer,category
FROM Retail_sales
GROUP BY category;
```

unique_customer	category
141	Beauty
149	Clothing
144	Electronics

Create each shift and number of orders (Example Morning <12, Afternoon Between 12 & 17, Evening >17)



```sql
WITH hourly_sale
AS ( SELECT *, CASE
WHEN HOUR(sale_time) < 12 THEN 'morning'
WHEN HOUR(sale_time) between 12 and 17 THEN 'afternoon'
ELSE 'evening'
END AS shift
FROM Retail_Sales)
SELECT shift, count(*) AS total_orders
FROM hourly_sale
GROUP BY shift;
```

shift	total_orders
morning	548
evening	1062
afternoon	377