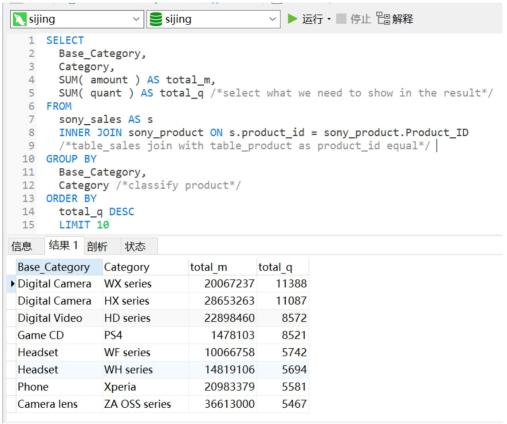
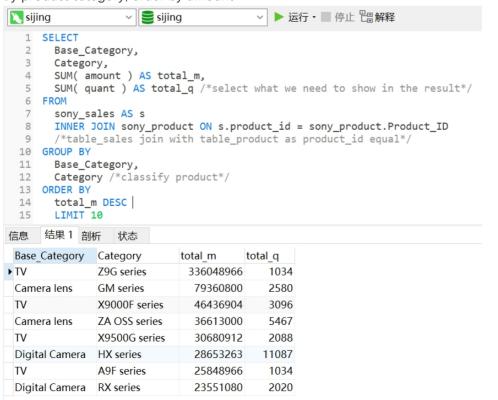
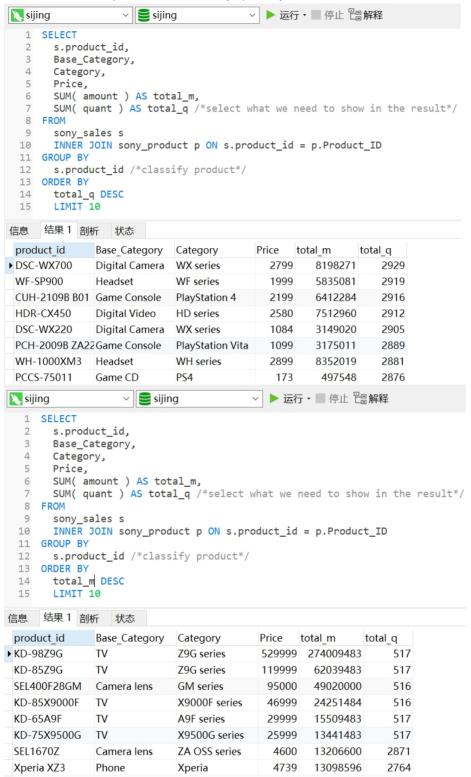
- 1. What's the best-selling product based on the data provided
 - Figure out what's the 'best-selling' meaning, one is 'highest sales amount', the other one is 'most product quantity'
 - By product category, order by quantity



By product category, order by amount

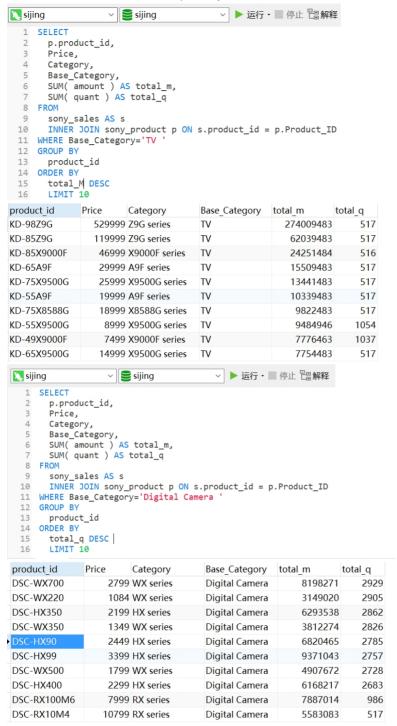


More details, add product id, order by quantity and amount



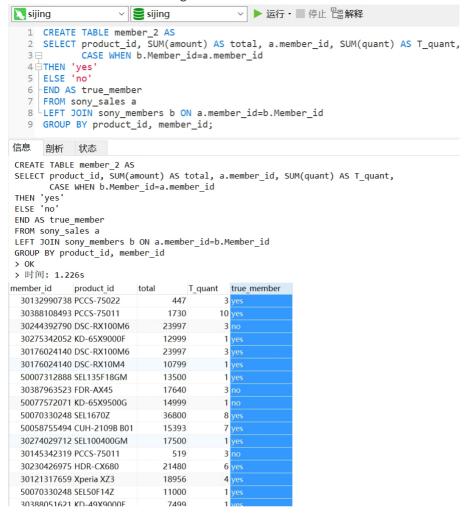
- (1) Based on quantity can see the top 10 products are:
 DSC-WX700, WF-SP900, CUH-2109B B01, HDR-CX450, DSC-WX220, PCH-2009B ZA22, WH1000XM3, PCCS-75011, SEL1670Z, HDR-CX405
- (2) Based on amount can see the top 10 are: KD-98Z9G, KD-85Z9G, SEL400F28GM, KD-85X9000F, KD-65A9F, KD-75X9500G, SEL1670Z, Xperia XZ3, SEL35F14Z, KD-55A9F
- (3) We can easily see TV has the highest sale amount, the most quantity belong to Digital Camera

So, we can select TV and Digital Camera to make a further investigation on how product unit price influence sales amount and quantity

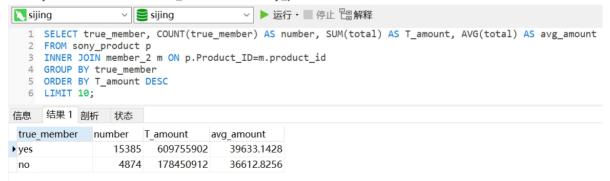


In conclusion, for TV: the unit price>10000 for the quantity is around 520, the highest amount is KD-98Z9G as its price is 529999; for Digital Camera: the price is around 3000 as the quantity is between 2500 and 3000, the unit price>5000 the quantity get much lower.

- 2. What's the difference between member and non-member in sales amount and product category
 - Create a new table containing the info if the customer is member or not

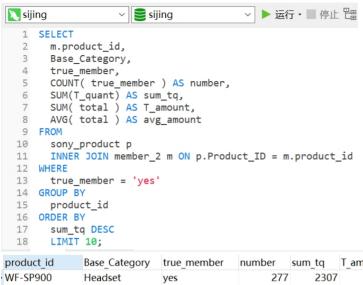


Inner join the table member_2 and table sony_product



From the result can see the number of member is about 3 times more than non-member, and the total purchase amount is much larger than non-number, while the average amount is little difference.

Figure out the most popular product among the member and non-member



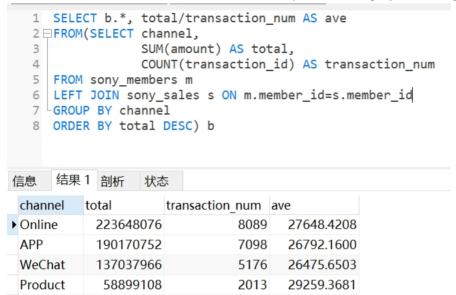
product_id	Base_Category	true_member	number	sum_tq	T_amount	avg_amount
WF-SP900	Headset	yes	277	2307	4611693	16648.7112
DSC-HX350	Digital Camera	yes	267	2263	4976337	18637.9663
DSC-WX700	Digital Camera	yes	279	2259	6322941	22662.8710
HDR-CX450	Digital Video	yes	261	2254	5815320	22280.9195
DSC-WX220	Digital Camera	yes	280	2245	2433580	8691.3571
PCCS-75011	Game CD	yes	281	2245	388385	1382.1530
CUH-2109B B01	Game Console	yes	280	2241	4927959	17599.8536
CUH-7209B	Game Console	yes	277	2236	6258564	22594.0939
PCH-2009B ZA22	Game Console	yes	279	2225	2445275	8764.4265
WH-1000XM3	Headset	yes	275	2222	6441578	23423.9200

```
1 SELECT
     m.product_id,
     Base_Category,
3
    true_member,
5
     COUNT( true_member ) AS number,
     SUM(T_quant) AS sum_tq,
6
     SUM( total ) AS T_amount,
8
     AVG( total ) AS avg_amount
9 FROM
10
    sony_product p
11
     INNER JOIN member_2 m ON p.Product_ID = m.product_id
12 WHERE
    true_member = 'no'
13
14 GROUP BY
15
    product id
16 ORDER BY
    sum_tq DESC
17
18 LIMIT 10;
```

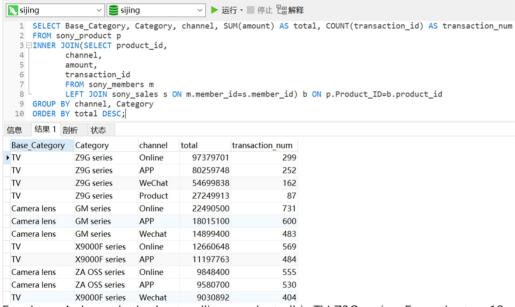
product_id	Base_Category	true_member	number	sum_tq	T_amount	avg_amount
CUH-2109B B01	Game Console	no	86	675	1484325	17259.5930
DSC-WX700	Digital Camera	no	86	670	1875330	21806.1628
DSC-WX350	Digital Camera	no	90	669	902481	10027.5667
PCCS-70032	Game CD	no	88	666	132534	1506.0682
HDR-CX405	Digital Video	no	86	664	1248320	14515.3488
PCH-2009B ZA22	Game Console	no	85	664	729736	8585.1294
DSC-WX220	Digital Camera	no	92	660	715440	7776.5217
WH-1000XM3	Headset	no	91	659	1910441	20993.8571
HDR-CX450	Digital Video	no	86	658	1697640	19740.0000
SEL1670Z	Camera lens	no	87	657	3022200	34737.9310

Members' favorite is Headset WF-SP900; while non-member prefer Game Console CUH-2109B B01.

3. What's the main difference in sales amount and product category according to register channel



Among these 4 channels, online channel got the highest total sales amount, product got the highest average sales amount.



For these 4 channels the best-selling product all is TV Z9G series. From the top 10 result, each kind of product can be bought by different register channel, there are more kinds of product were bought by online and APP, less by product channel. No significant correlation between register channel and product category.