

计算机科学与技术学院_数据库系统_课程实验报告

实验题目：综合实验 3		学号：202300130183
日期：2024/12/13	班级：23 级人工智能	姓名：宋浩宇
Email：2367651943@qq. com		
<div>实验软件和硬件环境：</div> <div>实验软件：</div> <div>系统：Windows 11 家庭中文版 23H2 22631.4317</div> <div>编辑器：Visual Studio Code</div> <div>数据库：SQL Server 2022</div> <div>数据库管理工具：Microsoft SQL Server Management Studio 18</div> <div>硬件环境：</div> <div>CPU：13th Gen Intel(R) Core(TM) i9-13980HX 2.20 GHz</div> <div>内存：32.0 GB (31.6 GB 可用)</div> <div>磁盘驱动器：NVMe WD_BLACKSN850X2000GB</div>		
<div>实验步骤：</div> <div>第一题：</div> <div>SQL：</div> <div><pre>SELECT COMMODITY.NAME, ONSSELL.STATUS, ONSSELL.REM_AMOUNT, CNT, AV FROM ONSSELL, (SELECT COUNT(*) AS CNT, AVG(BUYERRATE) AS AV FROM ORDERS WHERE SID = 251 AND CID = 669) JOIN COMMODITY ON ONSSELL.CID = COMMODITY.CID WHERE ONSSELL.SID = 251 AND ONSSELL.CID = 669;</pre></div>		

结果:

	name	status	rem_amount	cnt	av
1	lcegrxllzenqxijemcqugqoa	正常	19	2	5.0

第二题:

SQL:

```
SELECT
    STORES.NAME,
    SUM(ONSELL.PRICE) AS MONEY
FROM
    ORDERS,
    COMMODITY
    JOIN ONSELL
    ON ORDERS.SID = ONSELL.SID
    AND ONSELL.CID = ORDERS.CID
    JOIN BRAND
    ON COMMODITY.BID = BRAND.BID
    JOIN STORES
    ON ORDERS.SID = STORES.SID
WHERE
    COMMODITY.CID = ORDERS.CID
    AND BRAND.NAME = "蒂芙尼"
GROUP BY
    ORDERS.SID
ORDER BY
    SUM(ONSELL.PRICE) DESC LIMIT 5;
```

结果:

	name	MONEY
1	msefghllkcsozptremcmnvqoucgoisf	7953.36084574296
2	jfcemkejotgilvexejyoflch	7242.91624083314
3	jughdnyoutgodzamjxvjlrhv	7166.8308373491
4	eiqdokzrppmsofjbvfvadnbzdrzfbzndsgegv	5940.00529480325
5	sedybcqfszrtyqsyjplczcd	5859.18148851052

第三题：

SQL：

```
SELECT
    COMMODITY.NAME,
    ONSSELL.PRICE,
    COUNT(*) AS CNT
FROM
    STORES,
    ONSSELL
    JOIN ORDERS
    ON STORES.SID = ORDERS.SID
    AND ONSSELL.CID = ORDERS.CID
    JOIN COMMODITY
    ON ONSSELL.CID = COMMODITY.CID
WHERE
    STORES.SID = 1
    AND ONSSELL.SID = STORES.SID
GROUP BY
    ONSSELL.CID
ORDER BY
    COUNT(*) DESC LIMIT 10;
```

结果：

	name	price	cnt
1	jcbsszfxuxadfudlzsxfsrcevl	129.447196241827	6
2	kulbizqqucypexdlzsegxntpzh	1113.38206497252	4
3	qhozzwarvwfyikskgpigfudvknegvncmti	791.501522974916	4
4	blwdfuzrqtsksqihusahvychcn	963.999821403187	3
5	pxqfkglolboeauyzvzqrrbndjhxqckk	1118.96354099057	3
6	vojiprrdenekdazycmerv	423.605847475092	3
7	qzgmyxwyyzwooyoedeoeyjhumxahunoge	821.764074779772	2
8	riehqzfulqpbhydusbpbdjih	858.849828761941	2
9	nugcmiuemztboamzsfohprpuqq1	681.189333545001	2
10	oqarjdladisysviqmjgiptrsqrdxhmxveom...	407.691925834314	1

第四题：

SQL：

```

SELECT
    COMMODITY.NAME,
    SUM(ONSELL.PRICE) AS SM,
    AVG(ORDERS.BUYERRATE) AS AV
FROM
    BRAND,
    ONSELL
    JOIN COMMODITY
    ON BRAND.BID = COMMODITY.BID
    AND COMMODITY.CID = ONSELL.CID
    JOIN ORDERS
    ON ORDERS.CID = COMMODITY.CID
WHERE
    BRAND.BID = 1
    AND ORDERS.STATUS = "已完成"
GROUP BY
    ORDERS.CID;

```

结果：

	name	sm	av
1	emwidxvaetiwegbxbharemybxwnls	233242.966579991	4.71428571428571
2	umnrxlusyiqhkwoxufdswtrcqpqrzfnzwlpl	153109.952221164	4.61538461538461
3	rltwvclebppsdsnrmxrzed	748135.413230318	4.4
4	gdpenayggqisnjxqlniuredgwnbfmlgjpyjn	54271.5450398685	5.0
5	dslkvwcvhvlbnmewhahxxsaqlhrfpwvmgrn...	15651.1304319425	4.6
6	jwlryetxhpozflebhhecllyhmghwfohbjj	142145.620390028	4.54545454545455
7	eunipadyilwevbfndvfdiaocsxwujnzadqpf	29722.6110624432	4.33333333333333
8	vdakkyjonyhhbcgruyxskmcvaluonnsr	17186.6385966626	4.75
9	trwhcdyxvnnewnvnoolzqeromhaw	3897.24889438455	5.0
10	vyvkjhioozyhcztlbkkvlpji	112224.532364659	4.45454545454545
11	tkdgiabfayqqhfebypmbtnwhcxt	5691.38933852338	4.625
12	iohdcrmrxdrlkltfktbwroghmc	118390.866721057	4.9
13	tfzqybwwlmpztprbukeanhix	75514.3042750336	4.58823529411765
14	mvbhfayczyfwlapqdtzszdefaz	43602.9812290066	4.0
15	lzkhizlbmdodlcehlwnrwmfmmc	44544.8233188058	4.66666666666667
25	bnjxmkqwiyppraypobutmdqqyqfwgo	66345.5322519878	4.54545454545455
26	btuafmajfgocbpqgjmdknzrrmn	83514.9138147736	5.0
27	yqrxakldjtmbrafhficli	167907.087908775	4.45454545454545
28	pjetlojtgbyxwqgbfuaoawsjyviukjeoasbo...	54622.0085358937	4.30769230769231
29	zohmuhbogprhmgqedeieyi	150588.681939608	4.57142857142857
30	pjhugtmmnaqkqwhptodbpqdmgptjolqgriumx	141972.174880046	4.73333333333333
31	vwaobrqammaukrpinuvxvqangi	102446.318574627	4.66666666666667
32	fhaeygpobqlrqdbeqxokqbwpzpl	62731.4729402901	4.85714285714286
33	uebuosvbkdivfcrgyxlqfhugxckh	44751.9117439522	5.0
34	ipahrvsduhikehrxkimgez	113748.376308063	4.35294117647059
35	fmgjhunbzlurgvwjitlvsdccylwdxwxcw	154684.619987116	4.8125
36	rinaysmnaqykoneayxsq	131610.147359512	4.53333333333333
37	vgcuwdcjbayeyutccbwbfypvavuhqra	143552.581400525	4.47368421052632
38	dljiuclvenzcwjvojgnmlcu	39401.5339489683	4.3
39	jcyfspjvjnueyltwovhphijxcv	32169.6933545826	4.25
40	ersgrwrgemgfwmhwtatqdpfohls	179965.694543811	4.45
41	qxpzkhneovxxikejyxrom	46060.7218652464	4.42857142857143
42	xuksjvlwqrpdfujkgunutxklezlpjvq	90991.6722894307	4.66666666666667
43	yskudyjtuybixmhkdsppzj	77485.498664728	4.45454545454545

第五题：

SQL：

```
SELECT
    STORES.NAME,
    STORES.LEVEL,
```

```

SUM(ONSELL.PRICE)      AS SM,
CNT,
AVG(ORDERS.BUYERRATE) AS AV
FROM
STORES,
(
    SELECT
        COUNT(*) AS CNT
    FROM
        ONSELL
    WHERE
        ONSELL.SID = 1
)
JOIN ONSELL
ON STORES.SID = ONSELL.SID
JOIN ORDERS
ON ONSELL.CID = ORDERS.CID
AND STORES.SID = ORDERS.SID
WHERE
STORES.SID = 1;

```

结果：

	name	level	SM	CNT	AV
1	uncuavjtzqjyyboqqmlptrufwkepcsafxliu	4	24133.021563763	24	4.68421052631579

第六题：

SQL：

```

SELECT
    COMMODITY.NAME AS CNAME,
    BRAND.NAME AS BNAME,
    STORES.NAME AS SNAME,
    ONSELL.ONSELL_DATE,
    ONSELL.REM_AMOUNT,
    ONSELL.PRICE,
    AVG(ORDERS.BUYERRATE) AS AV
FROM
    COMMODITY,
    ONSELL
JOIN ORDERS
ON COMMODITY.CID = ORDERS.CID

```

```

AND ONSELL.SID = ORDERS.SID

JOIN BRAND

ON COMMODITY.BID = BRAND.BID

JOIN STORES

ON STORES.SID = ONSELL.SID

WHERE

    ONSELL.STATUS = "正常"

    AND COMMODITY.TYPE = "女装"

GROUP BY

    COMMODITY.NAME,

    STORES.NAME

ORDER BY

    AVG(ORDERS.BUYERRATE) DESC LIMIT 10;

```

结果：

	CNAME	BNAME	SNAME	onsell_date	rem_amount	price	AV
1	aavqkczgplxdbvvreruhkkkvq	TAGHeuer豪雅	akybzngontuuuslthcpsefazwlbzubsershk	921	32	1219.01824644944	5.0
2	aavqkczgplxdbvvreruhkkkvq	TAGHeuer豪雅	fvuztqhqcocqrgfhzzuphtfnozxxu	408	62	1049.20029878896	5.0
3	aavqkczgplxdbvvreruhkkkvq	TAGHeuer豪雅	hkphieiczghgihfwhdmkgobsxwvtqv	467	14	645.892046354857	5.0
4	aavqkczgplxdbvvreruhkkkvq	TAGHeuer豪雅	hoytnrppuqtecddzofylhcxlagagytltv	767	26	906.11935967566	5.0
5	aavqkczgplxdbvvreruhkkkvq	TAGHeuer豪雅	ptvllckrisuerpvalrmytloeupvihcgzuoru...	999	75	1093.26837946336	5.0
6	aavqkczgplxdbvvreruhkkkvq	TAGHeuer豪雅	wkdzjrfwnijwboqvzymxopjrp	971	64	452.592308421023	5.0
7	abifrvtxtzezmigqitlmdxenksdomwxasvzz...	夏奈尔	bbbygvewctvjxacjxejpmdre	988	62	731.147032772015	5.0
8	abifrvtxtzezmigqitlmdxenksdomwxasvzz...	夏奈尔	psxegcfvitqltbxfnfyipniyubwpyl	988	26	657.954393105545	5.0
9	abifrvtxtzezmigqitlmdxenksdomwxasvzz...	夏奈尔	xcionbtvknahiwznzkjsilk	720	12	195.245150512819	5.0
10	abljlloiowpkpitnnxrwuetsgpnpypt	江诗丹顿	ejqxmrtletqfnmpkedyte	658	64	60.1446538988178	5.0

第七题：

SQL：

```

WITH RANKED AS (

    SELECT

        C.TYPE,

        C.NAME,

        COUNT(ORDERS.OID)                                AS CNT,

        ROW_NUMBER() OVER (PARTITION BY C.TYPE ORDER BY COUNT(ORDERS.OID) DESC) AS RANK

    FROM

        ORDERS

        JOIN COMMODITY C

        ON ORDERS.CID = C.CID

    WHERE

        ORDERS.UID = 1

    GROUP BY

        C.TYPE,

        C.NAME

)

SELECT

    TYPE,

    NAME,

    CNT

FROM

```



```
RANKED
WHERE
RANK = 1;
```

结果：

	type	name	cnt
1	企业礼品	prrwpegnsbwojpogzqevxcyptkhowrj	1
2	手机	jmoxpyrunjszuqekqebmqqt	1
3	数码	sbiatucavocbcdscmjotypcwroxinnb	1
4	母婴	pwyqvtegyxhwdiywdetebdzfbwzcg	1
5	电器	uacebprslwdtmdzmovqbrrlhshmhlxumgsk...	1
6	运动	sqbcpiwovnorxgvcdhazpxxmlc	1
7	食品	sjlujyyylvzygrbitndlgmdhxxffg	1
8	饰品	cljawhfjcwlyadwsnjuuqkcehygedtxt DPR	1

第八题：

SQL：

```
UPDATE ONSSELL
SET
    STATUS = "下架"
WHERE
    STATUS = "正常"
    AND EXISTS (
        SELECT
            1
        FROM
            COMMODITY
        WHERE
            ONSSELL.CID = COMMODITY.CID
            AND (COMMODITY.MAN_DATE + COMMODITY.GUARANTEE_PERIOD) < 1000
    );
```

结果：

执行完成，无错误。

结果：查询执行成功。耗时 16ms，0 行数据受影响

在行 1:

```
UPDATE ONSSELL
SET
    STATUS = "下架"
WHERE
    STATUS = "正常"
    AND EXISTS (
        SELECT
            1
        FROM
            COMMODITY
        WHERE
            ONSSELL.CID = COMMODITY.CID
            AND (COMMODITY.MAN_DATE +
                COMMODITY.GUARANTEE_PERIOD) < 1000
    );
```

第九题（此为题目原本数据）：

a)

SQL：

```
-- a
INSERT INTO ORDERS(
    UID,
    SID,
    CID,
    SOLD_TIME,
    STATUS
) VALUES(
    1,
    1,
    1,
    1000,
    '待付款'
);
```

结果：

执行完成，无错误。

结果：查询执行成功。耗时 10ms

在行 1:

```
-- a
INSERT INTO ORDERS (
    UID,
    SID,
    CID,
    SOLD_TIME,
    STATUS
) VALUES (
    1,
    1,
    1,
    1000,
    '待付款'
);
```

b)

SQL:

```
-- b
UPDATE ONSELL
SET
    REM_AMOUNT = REM_AMOUNT - 1
WHERE
    SID = 1
    AND CID = 1;
```

结果:

执行完成，无错误。

结果：查询执行成功。耗时 0ms

在行 1:

```
-- b
UPDATE ONSELL
SET
    REM_AMOUNT = REM_AMOUNT - 1
WHERE
    SID = 1
    AND CID = 1;
```

c)

SQL:

```
-- c
UPDATE ONSELL
SET
    STATUS = "缺货"
WHERE
    SID = 1
    AND CID = 1
    AND REM_AMOUNT = 0;
```

结果:

执行完成，无错误。

结果：查询执行成功。耗时 0ms

在行 1:

```
-- C
UPDATE ONSSELL
SET
    STATUS = "缺货"
WHERE
    SID = 1
    AND CID = 1
    AND REM_AMOUNT = 0;
```

第十题：

删除顺序为：

```
DELETE FROM ONSSELL,
DELETE FROM ORDERS,
DELETE FROM BRAND,
DELETE FROM STORES,
DELETE FROM USER,
DELETE FROM COMMODITY;
```