计算机科学与技术学院 数据库系统 课程实验报告

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| 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 |
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| 实验软件和硬件环境：  实验软件：  系统：Windows 11 家庭中文版23H2 22631.4317  编辑器：Visual Studio Code  数据库：SQL Server 2022  数据库管理工具：Microsoft SQL Server Management Studio 18  硬件环境：  CPU：13th Gen Intel(R) Core(TM) i9-13980HX 2.20 GHz  内存：32.0 GB (31.6 GB 可用)  磁盘驱动器：NVMe WD\_BLACKSN850X2000GB | | |
| 实验步骤：  第一题：  SQL：  SELECT      COMMODITY.NAME,      ONSELL.STATUS,      ONSELL.REM\_AMOUNT,      CNT,      AV  FROM      ONSELL,      (          SELECT              COUNT(\*)       AS CNT,              AVG(BUYERRATE) AS AV          FROM              ORDERS          WHERE              SID = 251              AND CID = 669      )      JOIN COMMODITY      ON ONSELL.CID = COMMODITY.CID  WHERE      ONSELL.SID = 251      AND ONSELL.CID = 669;  结果：  结果图1  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：  结果图2  第三题：  SQL：  SELECT      COMMODITY.NAME,      ONSELL.PRICE,      COUNT(\*) AS CNT  FROM      STORES,      ONSELL      JOIN ORDERS      ON STORES.SID = ORDERS.SID      AND ONSELL.CID = ORDERS.CID      JOIN COMMODITY      ON ONSELL.CID = COMMODITY.CID  WHERE      STORES.SID = 1      AND ONSELL.SID = STORES.SID  GROUP BY      ONSELL.CID  ORDER BY      COUNT(\*) DESC LIMIT 10;  结果：  结果图3  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：  结果图4  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：  结果图5  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：  结果图6  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：  结果图7  第八题：  SQL：  UPDATE ONSELL  SET      STATUS = "下架"  WHERE      STATUS = "正常"      AND EXISTS (          SELECT              1          FROM              COMMODITY          WHERE              ONSELL.CID = COMMODITY.CID              AND (COMMODITY.MAN\_DATE + COMMODITY.GUARANTEE\_PERIOD) < 1000      );  结果：  结果图8  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：  结果图9-a  b)  SQL：  -- b  UPDATE ONSELL  SET      REM\_AMOUNT = REM\_AMOUNT - 1  WHERE      SID = 1      AND CID = 1;  结果：  结果图9-b  c)  SQL：  -- c  UPDATE ONSELL  SET      STATUS = "缺货"  WHERE      SID = 1      AND CID = 1      AND REM\_AMOUNT = 0;  结果：  结果图9-c  第九题（此为改后数据）：  a)  SQL：  INSERT INTO ORDERS(      UID,      SID,      CID,      SOLD\_TIME,      STATUS  ) VALUES(      1,      10,      3298,      1000,      '待付款'  );  结果：  结果图9-a  b)  SQL：  UPDATE ONSELL  SET      REM\_AMOUNT = REM\_AMOUNT - 1  WHERE      SID = 10      AND CID = 3298;  结果：  结果图9-b  c)  SQL：  UPDATE ONSELL  SET      STATUS = "缺货"  WHERE      SID = 10      AND CID = 3298      AND REM\_AMOUNT = 0;  结果：  结果图9-c  d)  SQL：  UPDATE ORDERS  SET      STATUS = '已完成',      BUYERRATE = 5  WHERE      STATUS != '已完成'      AND (SOLD\_TIME + 100) < 1000;  结果：  结果图9-d  第十题：  删除顺序为：  DELETE FROM ONSELL,  DELETE FROM ORDERS,  DELETE FROM BRAND,  DELETE FROM STORES,  DELETE FROM USER,  DELETE FROM COMMODITY; | | |