Q1-

create table TRANS (CustomerID integer, TransDate DATETIME,TransType CHAR, Amount float)

INSERT INTO TRANS VALUES

(1, '2005-01-01 00:00:00', 'C', 2000.0000),

(1, '2005-02-01 00:00:00', 'C', 2200.0000),

(1, '2005-03-02 00:00:00', 'D', 2000.0000),

(2, '2005-01-01 00:00:00', 'C', 2000.0000),

(2, '2005-02-01 00:00:00', 'D', 234.2230),

(2, '2005-04-01 00:00:00', 'C', 2000.0000),

(3, '2005-02-20 00:00:00', 'D', 200.2000),

(3, '2005-02-21 00:00:00', 'D', NULL),

(3, '2005-03-31 00:00:00', 'C', 334.5452),

(4, '2005-04-30 00:00:00', 'C', 332.4520);

//from the above code we can create the database that is mentioned in the problem.

Select * from TRANS;

CustomerID	TransDate	TransType	Amount
1	2005-01-01	C	2000
1	2005-02-01	C	2200
1	2005-03-02	D	2000
2	2005-01-01	C	2000
2	2005-02-01	D	234.223
2	2005-04-01	C	2000
3	2005-02-20	D	200.2
3	2005-02-21	D	NULL
3	2005-03-31	C	334.5452
4	2005-04-30	C	332.452

Query 1- Display Trans Table records with following columns CustomerID, TransDate, WeekDay, TransType, Amount Where TransType should display "Credit" for "C" and "Debit for "D" And WeekDay is TransDate of WeekDay, e.g. Today's Date is "Apr 17 2006" and Today WeekDay is "Monday"

Solution-

```
SELECT
    CustomerID,
    TransDate,

    case cast (strftime('%w', TransDate) as integer)
    when 0 then 'Sunday'
    when 1 then 'Monday'
    when 2 then 'Tuesday'
    when 3 then 'Wednesday'
    when 4 then 'Thursday'
    when 5 then 'Friday'
    else 'Saturday' end as weekday,

    CASE
        WHEN TransType = 'C' THEN 'Credit'
        WHEN TransType = 'D' THEN 'Debit'
    END AS TransType,
    Amount
FROM
    TRANS;
```

output-

CustomerID	TransDate	weekday	TransType	Amount
1	2005-01-01	Saturday	Credit	2000
1	2005-02-01	Tuesday	Credit	2200
1	2005-03-02	Wednesday	Debit	2000
2	2005-01-01	Saturday	Credit	2000
2	2005-02-01	Tuesday	Debit	234.223
2	2005-04-01	Friday	Credit	2000
3	2005-02-20	Sunday	Debit	200.2
3	2005-02-21	Monday	Debit	NULL
3	2005-03-31	Thursday	Credit	334.5452
4	2005-04-30	Saturday	Credit	332.452

query2-

Display Trans Table records with following columns CustomerID, TransDate, Credit Amount, Debit Amount, Where Credit Amount is Amount When TransType = 'C' Where Debit Amount is Amount When TransType = 'D' Display Null Value as "0.00" Display Amount with Two Decimal. Display TransDate with "MM/dd/yyyy" Format.

Solution-
```
SELECT
    CustomerID,
    strftime('%m/%d/%Y', TransDate) AS TransDate,
    ROUND(COALESCE(SUM(CASE WHEN TransType = 'C' THEN Amount END), 0), 2) AS "Credit
Amount",
    ROUND(COALESCE(SUM(CASE WHEN TransType = 'D' THEN Amount END), 0), 2) AS "Debit
Amount"
FROM
    TRANS
GROUP BY
    CustomerID,
    strftime('%m/%d/%Y', TransDate);
```

output-

CustomerID	TransDate	Credit Amount	Debit Amount
1	01/01/2005	2000	0
1	02/01/2005	2200	0
1	03/02/2005	0	2000
2	01/01/2005	2000	0
2	02/01/2005	0	234.22
2	04/01/2005	2000	0
3	02/20/2005	0	200.2
3	02/21/2005	0	0
3	03/31/2005	334.55	0
4	04/30/2005	332.45	0

Query 3- Same as 2, but display the records where TransDate Month belongs to "4" month And Year = 2005

Solution-

SELECT

   CustomerID,

   strftime('%m/%d/%Y', TransDate) AS TransDate,

   ROUND(COALESCE(SUM(CASE WHEN TransType = 'C' THEN Amount END), 0), 2) AS "Credit Amount",

   ROUND(COALESCE(SUM(CASE WHEN TransType = 'D' THEN Amount END), 0), 2) AS "Debit Amount"

FROM

   TRANS

WHERE

   strftime('%Y', TransDate) = '2005'

   AND strftime('%m', TransDate) = '04'

GROUP BY

   CustomerID,

   strftime('%m/%d/%Y', TransDate);

output-

CustomerID	TransDate	Credit Amount	Debit Amount
2	04/01/2005	2000	0
4	04/30/2005	332.45	0

Query 4- Same as 2, but display the records where TransDate is StartDate of the Month

Solution-

SELECT

  CustomerID,

  strftime('%m/01/%Y', TransDate) AS TransDate,

  ROUND(COALESCE(SUM(CASE WHEN TransType = 'C' THEN Amount END), 0), 2) AS "Credit Amount",

  ROUND(COALESCE(SUM(CASE WHEN TransType = 'D' THEN Amount END), 0), 2) AS "Debit Amount"

FROM

  TRANS

GROUP BY

  CustomerID,

  strftime('%m/01/%Y', TransDate);

output-

CustomerID	TransDate	Credit Amount	Debit Amount
1	01/01/2005	2000	0
1	02/01/2005	2200	0
1	03/01/2005	0	2000
2	01/01/2005	2000	0
2	02/01/2005	0	234.22
2	04/01/2005	2000	0
3	02/01/2005	0	200.2
3	03/01/2005	334.55	0
4	04/01/2005	332.45	0

Query 5- Same as 2, but display the records where TransDate is EndDate of the Month

Solution-

SELECT

   CustomerID,

   strftime('%m/%d/%Y', date(TransDate, '+1 month', 'start of month', '-1 day')) AS TransDate,

   ROUND(COALESCE(SUM(CASE WHEN TransType = 'C' THEN Amount END), 0), 2) AS "Credit Amount",

   ROUND(COALESCE(SUM(CASE WHEN TransType = 'D' THEN Amount END), 0), 2) AS "Debit Amount"

FROM

   TRANS

GROUP BY

   CustomerID,

   strftime('%m/%d/%Y', date(TransDate, '+1 month', 'start of month', '-1 day'));

output—

CustomerID	TransDate	Credit Amount	Debit Amount
1	01/31/2005	2000	0
1	02/28/2005	2200	0
1	03/31/2005	0	2000
2	01/31/2005	2000	0
2	02/28/2005	0	234.22
2	04/30/2005	2000	0
3	02/28/2005	0	200.2
3	04/30/2005	334.55	0
4	04/30/2005	332.45	0

Query 6- Display Trans Table records with following columns CustomerID, Year, Credit Total Amount, Debit Total Amount I need Total for each CustomerID, Year Where Credit Total Amount and Debit Total Amount is Sum of Amount Null Amount should display as 0.00

Solution-

SELECT

   CustomerID,

   strftime('%Y', TransDate) AS Year,

   ROUND(COALESCE(SUM(CASE WHEN TransType = 'C' THEN Amount END), 0), 2) AS "Credit Total Amount",

   ROUND(COALESCE(SUM(CASE WHEN TransType = 'D' THEN Amount END), 0), 2) AS "Debit Total Amount"

FROM

   TRANS

GROUP BY

   CustomerID,

   strftime('%Y', TransDate);

output-

CustomerID	Year	Credit Total Amount	Debit Total Amount
1	2005	4200	2000
2	2005	4000	234.22
3	2005	334.55	200.2
4	2005	332.45	0