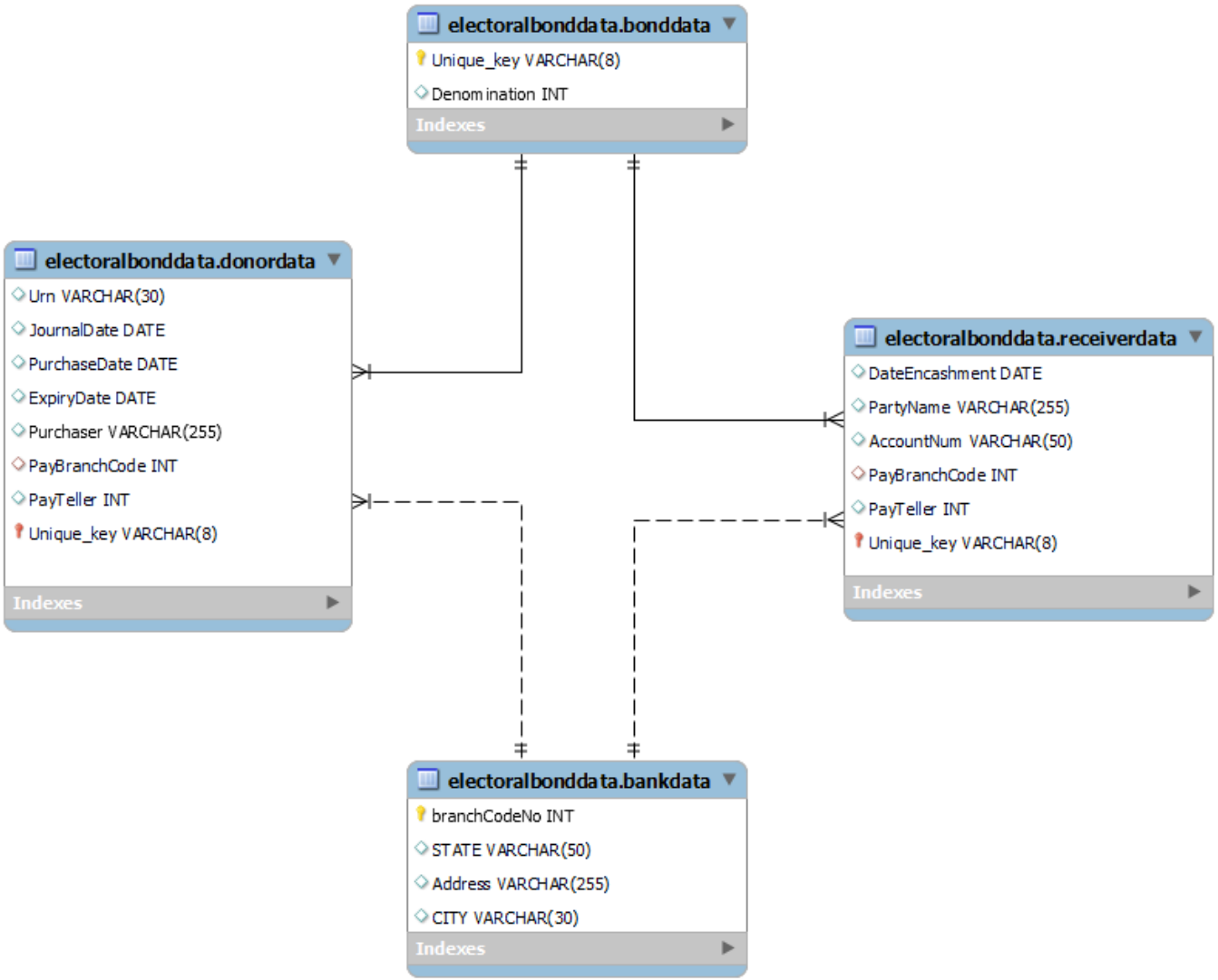
Queries on the database:



Total Tables in the database:

The data base has 4 tables : `SHOW TABLES`

```
+-------------------------------+
| Tables_in_electoralbonddata   |
+-------------------------------+
| bankdata                      |
| bonddata                      |
| donordata                     |
| receiverdata                  |
+-------------------------------+
```

Bonddata

```
+--------------+------------+------+-----+---------+-------+
| Field        | Type       | Null | Key | Default | Extra |
+--------------+------------+------+-----+---------+-------+
| Unique_key   | varchar(8) | NO   | PRI | NULL    |       |
| Denomination | int        | YES  |     | NULL    |       |
+--------------+------------+------+-----+---------+-------+
```

```
+------------+--------------+
| Unique_key | Denomination |
+------------+--------------+
| OC10000    |     10000000 |
| OC10001    |     10000000 |
| OC10002    |     10000000 |
| OC10003    |     10000000 |
| OC10004    |     10000000 |
+------------+--------------+
```

bankdata

```
+--------------+--------------+------+-----+---------+-------+
| Field        | Type         | Null | Key | Default | Extra |
+--------------+--------------+------+-----+---------+-------+
| branchCodeNo | int          | NO   | PRI | NULL    |       |
| STATE        | varchar(50)  | YES  |     | NULL    |       |
```

```
| Address      | varchar(255) | YES  |     | NULL    |       |
| CITY         | varchar(30)  | YES  |     | NULL    |       |
+--------------+--------------+------+-----+---------+-------+
```

```
+--------------+-----------------------------------+-----------------------------------------------------------------------------------------------------------------------------------------------------------+-------------+
| branchCodeNo | STATE                             | Address                                                                                                                                                   | CITY        |
+--------------+-----------------------------------+-----------------------------------------------------------------------------------------------------------------------------------------------------------+-------------+
|            1 | West Bengal and Andaman& Nicobar | Kolkata Main Branch,Samriddhi Bhawan1, Strand Road, Kolkata, West Bengal,District :Kolkata. State: West Bengal.Pin : 700001 | Kolkata     |
|            2 | Tripura                           | Agartala BranchHari Ganga Basak Road,Agartala, District: Tripura (W), Tripura, Pin: 799001                                                                | Agartala    |
|           41 | Odisha                            | Bhubaneswar Main BranchP.B.No.14, BhubaneswarBhubaneswar, Orissa. District : KhurdaState: Odisha, Pin : 751001                                            | Bhubaneswar |
|           78 | Assam                             | Guwahati Branch,Pan Bazar,MG Road, Kamrup, Guwahati.  Pin: 781001                                                                                         | Guwahati    |
|           92 | Manipur                           | lmphal BranchM G Avenue, lmphal west, Manipur, Pin: 795001                                                                                                | Imphal      |
+--------------+-----------------------------------+-----------------------------------------------------------------------------------------------------------------------------------------------------------+-------------+
```

DonorData

```
+---------------+--------------+------+-----+---------+-------+
| Field         | Type         | Null | Key | Default | Extra |
+---------------+--------------+------+-----+---------+-------+
| Urn           | varchar(30)  | YES  |     | NULL    |       |
| JournalDate   | date         | YES  |     | NULL    |       |
| PurchaseDate  | date         | YES  |     | NULL    |       |
| ExpiryDate    | date         | YES  |     | NULL    |       |
| Purchaser     | varchar(255) | YES  |     | NULL    |       |
| PayBranchCode | int          | YES  | MUL | NULL    |       |
| PayTeller     | int          | YES  |     | NULL    |       |
```

```
| Unique_key    | varchar(8)   | NO   | PRI | NULL    |       |
+---------------+--------------+------+-----+---------+-------+
```

```
+------------------------+------------+-------------+-----------+-----------------------------------+---------------+------
-----+------------+
| Urn                    | JournalDate | PurchaseDate | ExpiryDate | Purchaser                         | PayBranchCode |
PayTeller | Unique_key |
+------------------------+------------+-------------+-----------+-----------------------------------+---------------+------
-----+------------+
| 00847202204080000002387 | 2022-04-08  | 2022-04-08   | 2022-04-22 | KOYA AND COMPANY CONSTRUCTION LTD |           847 |
3898296 | OC10000    |
| 00300202110070000001967 | 2021-10-07  | 2021-10-07   | 2021-10-21 | K RAHEJA CORP PVT LTD             |           300 |
7905165 | OC10001    |
| 00300202110070000001984 | 2021-10-07  | 2021-10-07   | 2021-10-21 | CAPSTAN TRADING LLP               |           300 |
7905165 | OC10002    |
| 00300202110070000001967 | 2021-10-07  | 2021-10-07   | 2021-10-21 | K RAHEJA CORP PVT LTD             |           300 |
7905165 | OC10003    |
| 00300202110070000001984 | 2021-10-07  | 2021-10-07   | 2021-10-21 | CAPSTAN TRADING LLP               |           300 |
7905165 | OC10004    |
+------------------------+------------+-------------+-----------+-----------------------------------+---------------+------
-----+------------+
```

Receiverdata

```
+----------------+-------------+------+-----+---------+-------+
| Field          | Type        | Null | Key | Default | Extra |
+----------------+-------------+------+-----+---------+-------+
| DateEncashment | date        | YES  |     | NULL    |       |
| PartyName      | varchar(255) | YES  |     | NULL    |       |
| AccountNum     | varchar(50)  | YES  |     | NULL    |       |
| PayBranchCode  | int         | YES  | MUL | NULL    |       |
| PayTeller      | int         | YES  |     | NULL    |       |
| Unique_key     | varchar(8)  | NO   | PRI | NULL    |       |
+----------------+-------------+------+-----+---------+-------+
```

DateEncashment	PartyName	AccountNum	PayBranchCode	PayTeller	Unique_key
2022-04-12	BHARAT RASHTRA SAMITHI	*******7477	847	3898296	OC10000
2021-10-08	BHARAT RASHTRA SAMITHI	*******7477	847	6417329	OC10001
2021-10-08	BHARAT RASHTRA SAMITHI	*******7477	847	6417329	OC10002
2021-10-08	BHARAT RASHTRA SAMITHI	*******7477	847	6417329	OC10003
2021-10-08	BHARAT RASHTRA SAMITHI	*******7477	847	6417329	OC10004

Questions On Electoral Bonds

Here are the Some questions we have tried to answer by writing some queries.

> The Questions are not too elaboratated so there can be some ambiguity.
> In further session some more questions are added.
> Some questions could have repeated or asked in a different way please forgive me for that.

-- 1. Find out how much donors spent on bonds (k)
-- 2. Find out total fund politicians got (k)
-- 3. Find out the total amount of unaccounted money recived by parties (k)
-- 4. Find year wise how much money is spend on bonds (k)
-- 5. In which month most amount is spent on bonds (k)
-- 6. Find out which company bought the highest number of bonds. (k)
-- 7. Find out which company spent the most on electoral bonds. (k)
-- 8. List companies which paid the least to political parties. (k)
-- 9. Which political party received the highest cash? (k)
-- 10. Which political party received the highest number of electoral bonds? (k)
-- 11. Which political party received the least cash? (k)
-- 12. Which political party received the least number of electoral bonds? (k)
-- 13. Find the 2nd higest donor in terms of amount he paid?
-- 14. Find the party which received the second highest donations?
-- 15. Find the party which received the second highest number of bonds?
-- 16. In which city were the most number of bonds purchased?
-- 17. In which city was the highest amount spent on electoral bonds?
-- 18. In which city were the least number of bonds purchased?
-- 19. In which city were the most number of bonds encashed?
-- 20. In which city were the least number of bonds encashed

-- 14. Find the party which received the second highest donations?
-- 15. Find the party which received the second highest number of bonds?
-- 16. In which city were the most number of bonds purchased?
-- 17. In which city was the highest amount spent on electoral bonds?
-- 18. In which city were the least number of bonds purchased?
-- 19. In which city were the most number of bonds encashed?
-- 20. In which city were the least number of bonds encashed?
-- 21. List the branches where no electoral bonds were bought; if none, mention it as null.
-- 22. Break down how much money is spent on electoral bonds for each year.
-- 23. Break down how much money is spent on electoral bonds for each year and provide the year and the amount. Provide values for the highest and least year and amount.
-- 24. Find out how many donors bought the bonds but did not donate to any political party?
-- 25. Find out the money that could have gone to the PM Office, assuming the above question assumption (Domain Knowledge)
-- 26. Find out how many bonds don't have donors associated with them.
-- 27. PayTeller is the employee ID who either created the bond or redeemed it. So find the employee ID who issued the highest number of bonds.
-- 28. Find the employee ID who issued the least number of bonds.
-- 29. Find the employee ID who assisted in redeeming or encashing bonds the most.
-- 30. Find the employee ID who assisted in redeeming or encashing bonds the least
**/

-- 1. Find out how much donors spent on bonds (k)

```
SELECT SUM(Denomination) as 'Total Amount bought'
FROM donordata d
JOIN bonddata b on d.Unique_key = b.Unique_key;
```

-- 2. Find out total fund politicians got (k)

```
SELECT SUM(Denomination) as 'Total Recived Amount'
FROM receiverdata r
JOIN bonddata b on r.Unique_key = b.Unique_key;
```

-- 3. Find out the total amount of unaccounted money recived by parties (Money without donors) (k)

```
SELECT SUM(Denomination) as 'Unaccounted Amount'
FROM donordata d
RIGHT JOIN receiverdata r ON r.Unique_key = d.Unique_key
```

```
JOIN bonddata b ON r.Unique_key = b.Unique_key
WHERE purchaser IS NULL;
```

-- 4. Find year wise how much money is spent on bonds (k)

```
SELECT YEAR(d.PurchaseDate) AS `year`,SUM(Denomination) AS 'year wise bond spending'
FROM donordata d
JOIN bonddata b ON b.unique_key = d.unique_key
GROUP BY `year`
ORDER BY `year wise bond spending` DESC;
```

-- 5. In which month most amount is spent on bonds (k)

-- Output gives you a month number

```
WITH city_bond_spending_cte AS (
    SELECT MONTH(d.PurchaseDate) AS `Month`, SUM(b.Denomination) AS 'city_bond_spending'
    FROM donordata d
    JOIN bonddata b ON b.unique_key = d.unique_key
    GROUP BY `Month`
)
SELECT *
FROM city_bond_spending_cte
WHERE city_bond_spending = (
    SELECT MAX(city_bond_spending)
    FROM city_bond_spending_cte
);
```

-- Output gives you a month name

```
WITH city_bond_spending_cte AS (
    SELECT MONTHNAME(d.PurchaseDate) AS `Month`, SUM(b.Denomination) AS 'city_bond_spending'
    FROM donordata d
    JOIN bonddata b ON b.unique_key = d.unique_key
    GROUP BY `Month`
)
SELECT *
FROM city_bond_spending_cte
```

```
WHERE city_bond_spending = (
    SELECT MAX(city_bond_spending)
    FROM city_bond_spending_cte
);
```

-- 6. Find out which company bought the highest number of bonds. (k)

```
 WITH SpendingCounts AS (
    SELECT purchaser, COUNT(d.unique_key) AS company_bondcount
    FROM donordata d
    JOIN bonddata b ON d.Unique_key = b.Unique_key
    GROUP BY purchaser
)
SELECT purchaser, company_bondcount as 'Max bond bought'
FROM SpendingCounts
WHERE company_bondcount = (
    SELECT MAX(company_bondcount)
    FROM SpendingCounts
);
```

-- 7. Find out which company spent the most on electoral bonds. (k)

```
 WITH SpendingCounts AS (
    SELECT purchaser, SUM(Denomination) as spending_count
    FROM donordata d
    JOIN bonddata b ON d.Unique_key = b.Unique_key
    GROUP BY purchaser
)
SELECT purchaser, spending_count as 'Company Spending'
FROM SpendingCounts
WHERE spending_count = (
    SELECT MAX(spending_count)
    FROM SpendingCounts
);
```

-- 8. List companies which paid the least to political parties. (k)

```sql
 WITH SpendingCounts AS (
    SELECT purchaser, SUM(Denomination) as spending_count
    FROM donordata d
    JOIN bonddata b ON d.Unique_key = b.Unique_key
    GROUP BY purchaser
)
SELECT purchaser, spending_count as 'Company Spending'
FROM SpendingCounts
WHERE spending_count = (
    SELECT MIN(spending_count)
    FROM SpendingCounts
);
```

-- 9. Which political party received the highest cash? (k)

```sql
 WITH SpendingCounts AS (
    SELECT partyname, SUM(Denomination) as Encashment
    FROM receiverdata r
    JOIN bonddata b ON r.Unique_key = b.Unique_key
    GROUP BY partyname
)
SELECT partyname, Encashment as 'Fund Received'
FROM SpendingCounts
WHERE Encashment = (
    SELECT MAX(Encashment)
    FROM SpendingCounts
);
```

-- 10. Which political party received the highest number of electoral bonds? (k)

```sql
 WITH SpendingCounts AS (
    SELECT partyname, COUNT(Denomination) as Encashment_count
    FROM receiverdata r
    JOIN bonddata b ON r.Unique_key = b.Unique_key
    GROUP BY partyname
)
SELECT partyname, Encashment_count as 'Company Spending'
```

```
FROM SpendingCounts
WHERE Encashment_count = (
    SELECT MAX(Encashment_count)
    FROM SpendingCounts
);
```

-- 11. Which political party received the least cash? (k)

```
 WITH SpendingCounts AS (
    SELECT partyname, SUM(Denomination) as Encashment
    FROM receiverdata r
    JOIN bonddata b ON r.Unique_key = b.Unique_key
    GROUP BY partyname
)
SELECT partyname, Encashment as 'Fund Received'
FROM SpendingCounts
WHERE Encashment = (
    SELECT MIN(Encashment)
    FROM SpendingCounts
);
```

-- 12. Which political party received the least number of electoral bonds? (k)

```
 WITH SpendingCounts AS (
    SELECT partyname, COUNT(Denomination) as Encashment_count
    FROM receiverdata r
    JOIN bonddata b ON r.Unique_key = b.Unique_key
    GROUP BY partyname
)
SELECT partyname, Encashment_count as 'Company Spending'
FROM SpendingCounts
WHERE Encashment_count = (
    SELECT MIN(Encashment_count)
    FROM SpendingCounts
);
```

-- 13. Find the 2nd higest donor in terms of amount he paid?

```
SELECT purchaser, SUM(Denomination) as 'purchaser total donation'
FROM donordata d
JOIN bonddata b ON d.Unique_key = b.Unique_key
GROUP BY purchaser
HAVING `purchaser total donation` = (
                                    SELECT DISTINCT(SUM(Denomination)) as 'purchaser total donation'
                                    FROM donordata d
                                    JOIN bonddata b ON d.Unique_key = b.Unique_key
                                    GROUP BY purchaser
                                    ORDER BY `purchaser total donation` DESC
                                    LIMIT 1
                                    OFFSET 1) ;
```

-- 14. Find the party which recived the second highest donations?

```
SELECT PartyName, SUM(Denomination) as 'party received'
FROM receiverdata r
JOIN bonddata b ON r.Unique_key = b.Unique_key
GROUP BY PartyName
HAVING `party received` = (
                           SELECT DISTINCT(SUM(Denomination)) as 'party received'
                           FROM receiverdata r
                           JOIN bonddata b ON r.Unique_key = b.Unique_key
                           GROUP BY PartyName
                           ORDER BY `party received` DESC
                           LIMIT 1
                           OFFSET 1) ;
```

-- 15. Find the party which recived the second highest number of bonds?

```
SELECT PartyName, COUNT(r.Unique_key) as 'party received'
FROM receiverdata r
JOIN bonddata b ON r.Unique_key = b.Unique_key
GROUP BY PartyName
HAVING `party received` = (
```

```
                            SELECT DISTINCT(COUNT(r.Unique_key)) as 'party received'
                            FROM receiverdata r
                            JOIN bonddata b ON r.Unique_key = b.Unique_key
                            GROUP BY PartyName
                            ORDER BY `party received` DESC
                            LIMIT 1
                            OFFSET 1);
```

-- 16. In which city were the most number of bonds purchased? (k)

```
WITH city_bond_count as (   SELECT b.city, COUNT(c.Denomination) as 'city bond spending'
                            FROM donordata d
                            JOIN bankdata b ON d.paybranchcode = b.branchcodeNo
                            JOIN bonddata c ON c.unique_key = d.unique_key
                            GROUP BY b.city
                            ORDER BY `city bond spending` DESC)
SELECT *
FROM city_bond_count
WHERE `city bond spending` = (  SELECT MAX(`city bond spending`)
                                FROM city_bond_count);
```

-- 17. In which city was the highest amount spent on electoral bonds? (k)

```
WITH city_bond_amt as (   SELECT b.city, SUM(c.Denomination) as 'city bond spending'
                            FROM donordata d
                            JOIN bankdata b ON d.paybranchcode = b.branchcodeNo
                            JOIN bonddata c ON c.unique_key = d.unique_key
                            GROUP BY b.city
                            ORDER BY `city bond spending` DESC)
SELECT *
FROM city_bond_amt
WHERE `city bond spending` = (  SELECT MAX(`city bond spending`)
                                FROM city_bond_amt);
```

-- 18. In which city were the least number of bonds purchased? (k)

```sql
WITH city_bond_count as (   SELECT b.city, COUNT(c.Denomination) as 'city bond spending'
                            FROM donordata d
                            JOIN bankdata b ON d.paybranchcode = b.branchcodeNo
                            JOIN bonddata c ON c.unique_key = d.unique_key
                            GROUP BY b.city
                            ORDER BY `city bond spending` DESC)
SELECT *
FROM city_bond_count
WHERE `city bond spending` = (  SELECT MIN(`city bond spending`)
                                FROM city_bond_count);
```

-- 19. In which city were the most number of bonds encashed? (k)

```sql
WITH city_bond_amt as ( SELECT b.city, COUNT(r.unique_key) as 'city bond encashment'
                        FROM receiverdata r
                        JOIN bankdata b ON r.paybranchcode = b.branchcodeNo
                        JOIN bonddata c ON c.unique_key = r.unique_key
                        GROUP BY b.city
                        ORDER BY `city bond encashment` DESC)
SELECT *
FROM city_bond_amt
WHERE `city bond encashment` = (  SELECT MAX(`city bond encashment`)
                                  FROM city_bond_amt);
```

-- 20. In which city least amount is encashed in bond forms? (k)

```sql
WITH city_bond_amt as ( SELECT b.city, SUM(c.Denomination) as 'city bond encashment'
                        FROM receiverdata r
                        JOIN bankdata b ON r.paybranchcode = b.branchcodeNo
                        JOIN bonddata c ON c.unique_key = r.unique_key
                        GROUP BY b.city
                        ORDER BY `city bond encashment` DESC)
SELECT *
FROM city_bond_amt
WHERE `city bond encashment` = (  SELECT MIN(`city bond encashment`)
                                  FROM city_bond_amt);
```

-- 21. Break down how much money is spent on electoral bonds for each year. (k) -- Same question as that of Question 4

```sql
SELECT YEAR(d.PurchaseDate) AS `year` ,SUM(c.Denomination) AS 'year wise bond spending'
FROM donordata d
JOIN bankdata b ON d.paybranchcode = b.branchcodeNo
JOIN bonddata c ON c.unique_key = d.unique_key
GROUP BY `year`
ORDER BY `year wise bond spending` DESC;
```

-- 22. Break down how much money is spent on electoral bonds for each year.

-- 23. Break down how much money is spent on electoral bonds for each year and provide the year and the amount. Provide values for the highest and least year and amount.

-- 24. Find out how many donors bought the bonds but not donated to any political party? (k)

```sql
SELECT COUNT(*)
FROM donordata d
LEFT JOIN receiverdata r ON r.Unique_key = d.Unique_key
WHERE r.partyname is NULL;
```

-- 25. Find out the money that could have went to PM Office assuming the above question assumption(Domain Knowledge) (k)

```sql
SELECT SUM(Denomination)
FROM donordata d
LEFT JOIN receiverdata r ON r.Unique_key = d.Unique_key
JOIN bonddata b ON b.Unique_key = d.Unique_key
WHERE partyname is NULL;
```

-- 26. Find out how many bonds don't have donars associated with it. (k)

```sql
SELECT COUNT(*)
FROM donordata d
RIGHT JOIN receiverdata r ON r.Unique_key = d.Unique_key
WHERE purchaser is NULL;
```

-- 27. PayTeller is the employee ID who either created the bond or redeemed it. So find the employee ID who issued the highest number of bonds.

-- 28. Find the employee ID who issued the least number of bonds.

-- 29. Find the employee ID who assisted in redeeming or encashing bonds the most.
-- 30. Find the employee ID who assisted in redeeming or encashing bonds the least

/**For the Below Question I have Used Views*

-- 31. Find out how much money is associated with it bonds with out donors. (k)

-- PayTeller is the employee ID who either created the bond or redeemed it.
-- 33. Find the employee ID who issued the highest number of bonds (k) ---
-- 34. Find the employee ID who issued the bonds for highest amount (k) | --> Issue details are in donordata.
-- 35. Find the employee ID who issued the least number of bonds (k) |
-- 36. Find the employee ID who issued the bonds for least amount (k) ---

```
-- 37. Find the employee ID who assisted in redeeming or encashing a bonds in higest number (k)   ---
-- 38. Find the employee ID who assisted in redeeming or encashing bonds for highest amount (k)      | --> Redeeming or encashing details are in
receiverdata table.
-- 39. Find the employee ID who assisted in redeeming or encashing a bonds in least number  (k)      |
-- 40. Find the employee ID who assisted in redeeming or encashing bonds for highest amount (k)   ---
```

***/

-- PayTeller is the employee ID who either created the bond or redeemed it.

-- 33. Find the employee ID who issued the highest number of bonds ---
-- 34. Find the employee ID who issued the bonds for highest amount | --> Issue details are in donordata.
-- 35. Find the employee ID who issued the least number of bonds |
-- 36. Find the employee ID who issued the bonds for least amount ---

```
CREATE VIEW donor_employee_performance AS (
SELECT Payteller, COUNT(b.unique_key) AS 'employee_bond_count', SUM(Denomination) AS 'employee_bond_amount'
FROM donordata d
JOIN bonddata b ON d.unique_key = b.unique_key
GROUP BY Payteller
ORDER BY `employee_bond_count`, `employee_bond_amount`);
```

```
SELECT *
FROM donor_employee_performance;
```

-- 33. Find the employee ID who issued the highest number of bonds

```sql
SELECT Payteller
FROM donor_employee_performance
WHERE `employee_bond_count` = (SELECT MAX(`employee_bond_count`)
                               FROM donor_employee_performance);
```

-- 34. Find the employee ID who issued the bonds for highest amount

```sql
SELECT Payteller
FROM donor_employee_performance
WHERE `employee_bond_amount` = (SELECT MAX(`employee_bond_amount`)
                               FROM donor_employee_performance);
```

-- 35. Find the employee ID who issued the least number of bonds

```sql
SELECT Payteller
FROM donor_employee_performance
WHERE `employee_bond_count` = (SELECT MIN(`employee_bond_count`)    -- important to explain.
                               FROM donor_employee_performance);
```

-- 36. Find the employee ID who issued the bonds for least amount

```sql
SELECT Payteller
FROM donor_employee_performance
WHERE `employee_bond_amount` = (SELECT MIN(`employee_bond_amount`)
                               FROM donor_employee_performance);
```

-- 37. Find the employee ID who assisted in redeeming or encashing a bonds in higest number ---
-- 38. Find the employee ID who assisted in redeeming or encashing bonds for highest amount | --> Redeeming or encashing details are in receiverdata table.
-- 39. Find the employee ID who assisted in redeeming or encashing a bonds in least number |
-- 40. Find the employee ID who assisted in redeeming or encashing bonds for highest amount ---

```sql
CREATE VIEW receiver_employee_performance AS (
SELECT Payteller, COUNT(r.unique_key) AS 'employee_bond_count', SUM(Denomination) AS 'employee_bond_amount'
FROM receiverdata r
```

```
JOIN bonddata b ON r.unique_key = b.unique_key
GROUP BY Payteller);
```

```
SELECT *
FROM receiver_employee_performance;
```

-- 37. Find the employee ID who assisted in redeeming or encashing a bonds in higest number

```
SELECT Payteller
FROM receiver_employee_performance
WHERE `employee_bond_count` = (SELECT MAX(`employee_bond_count`)
                               FROM receiver_employee_performance);
```

-- 38. Find the employee ID who assisted in redeeming or encashing bonds for highest amount

```
SELECT Payteller
FROM receiver_employee_performance
WHERE `employee_bond_amount` = (SELECT MAX(`employee_bond_amount`)
                               FROM receiver_employee_performance);
```

-- 39. Find the employee ID who assisted in redeeming or encashing a bonds in least number

```
SELECT Payteller
FROM receiver_employee_performance
WHERE `employee_bond_count` = (SELECT MIN(`employee_bond_count`)
                               FROM receiver_employee_performance);
```

-- 40. Find the employee ID who assisted in redeeming or encashing bonds for highest amount

```
SELECT Payteller
FROM receiver_employee_performance
WHERE `employee_bond_amount` = (SELECT MIN(`employee_bond_amount`)
                               FROM receiver_employee_performance);
```

--

-- Here are some more question which we can answer using sql.

-- 1. Tell me total how many bonds are created?

```
 SELECT COUNT(Unique_key) as 'All Bonds Count'
 FROM bonddata;
```

-- 2. Find the count of Unique Denominations provided by SBI

```
SELECT COUNT(DISTINCT Denomination) AS 'Unique count of amonut denominations'
FROM bonddata;
```

-- 3. List all the unique denominations that are available?

```
SELECT DISTINCT Denomination AS 'Unique denominations'
FROM bonddata;
```

-- 4. Total money recived by the bank for selling bonds

```
SELECT SUM(Denomination) AS 'Total Amount Received by Bank'
FROM bonddata;
```

-- 5. Find the count of bonds for each denominations that are created.

```
SELECT Denomination, COUNT(Denomination) as 'count of Denominations'
FROM bonddata
GROUP BY Denomination
ORDER BY Denomination;
```

-- 6. Find the count and Amount or Valuation of electoral bonds for each denominations.

```
SELECT Denomination,
       COUNT(Denomination) as `count of Denominations`,
       Denomination * COUNT(Denomination) as `Total Value`
FROM bonddata
```

```
GROUP BY Denomination
ORDER BY Denomination; -- Order by is not needed just for our convinence and understanding
```

-- 7. Number of unique bank branches where we can buy electroal bond?

```
  SELECT COUNT(branchcodeno)
  FROM bankdata;
```

-- 8. How many companies bought electoral bonds

```
SELECT COUNT(DISTINCT purchaser) AS 'No of Political Donors'
FROM donordata;
```

-- 9. How many companies made political donations

```
SELECT COUNT(DISTINCT purchaser) AS 'No of Political Donors'
FROM donordata d
JOIN receiverdata r on r.Unique_key = d.Unique_key;
```

-- 10. How many number of parties recived donations

```
SELECT COUNT(DISTINCT Partyname) AS 'No of Political Parties'
FROM receiverdata;
```

-- 11. List all the political parties that received donations

```
SELECT DISTINCT Partyname AS 'List of political parties'
FROM receiverdata;
```

-- 12. What is the average amount that each political party recived

```
SELECT Partyname, SUM(Denomination)/COUNT(Denomination) AS 'Average Amount Received by political party'
FROM receiverdata r
JOIN bonddata b on b.Unique_key = r.Unique_key
GROUP BY Partyname;
```

-- 13. What is the average bond value produced by bank

```
SELECT  SUM(Denomination)/COUNT(Denomination) as 'Average bond value'
FROM bonddata;
```

-- or

```
SELECT  AVG(Denomination) as 'Average bond value'
FROM bonddata;
```

-- 14 . List the political parties which have enchased bonds in different cities?

```
SELECT Partyname
FROM (SELECT Partyname, CITY, COUNT(Unique_key) AS PartyCount
    FROM receiverdata r
    JOIN bankdata b ON r.PayBranchCode = b.branchcodeno
    GROUP BY Partyname, CITY) as d
GROUP BY Partyname
HAVING COUNT(CITY) > 1
ORDER BY Partyname;
```

-- 15 . List the political parties which have enchased bonds in different cities and list the cities in which the bonds have encashed as well?

```
SELECT Partyname, CITY
FROM (
    SELECT Partyname, CITY, COUNT(Unique_key) AS PartyCount
    FROM receiverdata r
    JOIN bankdata b ON r.PayBranchCode = b.branchcodeno
    GROUP BY Partyname, CITY
) AS d
WHERE Partyname IN (
    SELECT Partyname
    FROM (
        SELECT Partyname, COUNT(DISTINCT CITY) AS CityCount
        FROM receiverdata r
        JOIN bankdata b ON r.PayBranchCode = b.branchcodeno
        GROUP BY Partyname
```

```
    ) AS sub
    WHERE CityCount > 1
)
ORDER BY Partyname;
```

-- Same above query but in CTE form.

```
WITH PartyCityCounts AS (
    SELECT Partyname, CITY, COUNT(Unique_key) AS PartyCount
    FROM receiverdata r
    JOIN bankdata b ON r.PayBranchCode = b.branchcodeno
    GROUP BY Partyname, CITY
)
SELECT Partyname, CITY
FROM PartyCityCounts
WHERE Partyname IN (
                    SELECT Partyname
                    FROM PartyCityCounts
                    GROUP BY Partyname
                    HAVING COUNT(CITY) > 1
)
ORDER BY Partyname;
```
