Phase – 4 Report

ELECTION DATABASE

Commands:

1. Insert (Administrator)

2. Delete (Administrator)

3. Update (Administrator)

4. Sort (Administrator, User)

5. Get Poll Percentage Based on Social Tendencies (Administrator, User)

6. Aggregate (Administrator, User)

7. Project (Administrator, User)

8. Search (Administrator, User)

9. Add access key (Administrator)

10. Get report(Administrator, user)

1. Insert:

(a)   Insert Voter: insertVoter() this allows authorized persons to insert new voter records, capturing their voter ID, name, address, date of birth, phone number, and email ID.

(b)   <u>Log Event</u>: createEvent() this enables authorized persons to insert new election events, specifying event details like date, type, location, election type, and status.

(c)   <u>Create New Station</u>: insertStation() this enables authorized persons to insert new polling station records, specifying their station ID, location and address.

(d)   <u>Log Party</u>: insertParty() this enables authorized persons to insert political party records with details like party ID, name,President, and platform.

(e)   <u>Log Candidate:</u> insertCandidate() allow authorized personsto insert candidate records, capturing their name, election event, list of candidates and ballot format.

(f) <u>Insert Campaign Finance:</u> insertCampaignFinance() enables authorized persons to insert campaign finance records that track contributions and expenditures.

(g) <u>Insert Election Official</u>: insertOfficial() this enables authorized personsto insert new official records with their official ID, name, role, and contact information.

(h)   <u>Insert Historical Election Data</u>: insertHistoricalElectionData() allows authorized persons to insert historical election data, including event ID, date, election type, total votes, winner, turnout rate, and vote status.

(i) <u>Insert Records</u>: insertRecords() allows authorized persons to insert records for voter status, capturing the date and status.

(j) <u>Insert Candidate into ballot:</u> insertCandidateToList() allows authorized persons to insert list of candidates into ballot with candidate name, ballot id.

2. Delete:

(a)   <u>Delete Voter:</u> deleteVoter() allows authorized persons to delete voter records.

(b)   Delete Event: deleteEvent() allows authorized persons to delete election event records.

(c)   Delete Station: deleteStation() allows authorized persons to delete polling station records.

(d)   Delete Party: deleteParty() allows authorized persons to delete political party records.

(e)   Delete Candidate: deleteCandidate() allows authorized persons to delete candidate records.

(f) Delete Election Official: deleteOfficial() allows authorized persons to delete election-official records.

3. Update:

(a)   Update Voter: updateVoter() allows authorized persons to update voter information as needed.

(b)   Update Event: updateEvent() allows authorized persons to update election event information as needed.

(c)   Update Station: updateStation() allows authorized persons to update Polling station information as requested.

(d)   Update Party: updateParty() allows authorized persons to update party information in list of parties as requested.

(e)   Update Candidate: updateCandidate() allows authorized persons to update Candidates information as required.

(f) Update Election Official: updateOfficial() allows authorized persons to update candidate information as needed.

(g)   Update Historical Election Data: updateHistoricalElectionData() allows authorized persons to update historical data as required.

(h)   Update Voter Status: updateVoterstatus() allows authorized persons to update Vote status of a voter.

(i) Update Demographic Data: updateDemographicData() allows authorized persons to update demographic data of a voter as required.

4. Sort:

(a) Sort Voters by Age: sortVoter() Sorts list of voters by their age range.

(b) Sort Voters by Income: sortVotersOnIncome() Sorts list of voters by their Income range.

5. Get Poll Percentage Based on Social Tendencies:

(a)   Get Poll Percentage by Age: Get_PP_By_Age() Generates the percentage of votes polled by different age groups.

(b)   Get Poll Percentage by Gender: Get_PP_By_Gender() Generates the percentage of votes polled by different genders.

(c)   Get Poll Percentage by Income: Get_PP_By_Income() Generates the percentage of votes polled by People of different income levels.

6.Aggregate:

(a) Total voters participated in an event: totalvoters() Perform an aggregate function to calculate the total number of voters who participated in the election event.

(b) Average of campaign fund: avgfund() Perform an aggregate function to calculate the average campaign fund for a candidate.

7. Projection:

(a) Voter Contact Details: voterContactInfo() Displays specific attributes from records, such as phone numbers and email addresses of voters for authorized users only.

(b) Candidates Information: candidatesInfo() Displays specific attributes related to candidates, such as their names and party

Affiliations.

(c) Voter Polling Stations: voterPollingStations() Displays polling stations and their contact information.

8.Search:

(a) Polling station assigned for a Voter: station_for_voter() Get polling station assigned to a voter based on Voter ID.

(b) Details of a Voter: voter_by_id() Searches voters by Voter IDs.

(c) Candidate representing a Party: candidate_by_party() Searches for the candidate based on the political party he/she is representing.

(d) Polling Station based on Address: station_by_address() Searches for a polling station based on address.

9.Add Access: Administrators can add access to other Administrators with a unique access key.

10.Get Report:

Generate Report: Generate_election_Report() Analysing the relation between Election result and Campaign Finance.

11.Assumptions:

We have a total of 40 queries but due to duration constraint (5 min) of the video, we showed only two queries of each type.