(By Tech Involvers)

Project 3: Voting Management System

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Instructions:**

* Read the problem carefully before trying to solve it.
* Do the tasks on your own. Don’t copy it.
* The output of your program must be the same as given in the sample run.

#### **Overview:**

Develop a Voting Management System (VMS) that performs various operations such as registering voters, casting votes, displaying results, and managing candidates.

#### **Requirements:**

1. **Voter and Candidate Structures:**
   * Use a struct to represent a voter and a candidate. Include fields like voterID, name, age, and hasVoted for voters. For candidates, include candidateID, name, and votes.
2. **File Handling:**
   * Store voter and candidate data in files to persist the data even after the program ends.
   * Implement functions to read from and write to the files.
3. **Functions:**
   * Register Voter: Register a new voter.
   * Add Candidate: Add a new candidate.
   * Display Voters: Display all registered voters.
   * Display Candidates: Display all candidates.
   * Cast Vote: Allow voters to cast their vote.
   * Display Results: Display voting results.
4. **Enumerations and Macros:**
   * Use enum to define different statuses or roles if needed.
   * Use macros for constants like the maximum number of voters and candidates.
5. **Pointers and Arrays:**
   * Use pointers for dynamic memory allocation if needed.
   * Use arrays for storing voter and candidate records in memory.
6. **Error Handling:**
   * Implement error handling for file operations and invalid inputs.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

### **Features Covered:**

**Structs and Typedef:**

* Voter and Candidate structures.

**File Handling:**

loadVoters, saveVoters, loadCandidates, and saveCandidates functions.

**Functions:**

* Registering voters, adding candidates, displaying voters and candidates, casting votes, and displaying results.

**Enumerations and Macros:**

* Use of MAX\_VOTERS and MAX\_CANDIDATES macros.

**Pointers and Arrays:**

* Using arrays to store voter and candidate records.

**Input/Output and Operators:**

* Using scanf and printf for input and output, and various operators within functions.