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Subject = Data Structure Using C

Online Voting System

Aim = To develop online voting system using data structure in c.

Procedure Code

#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#define MAX\_CANDIDATES 5

#define MAX\_VOTERS 100

typedef struct {

char name[50];

int voteCount;

} Candidate;

typedef struct {

char voterID[20];

int hasVoted;

} Voter;

Candidate candidates[MAX\_CANDIDATES];

Voter voters[MAX\_VOTERS];

int candidateCount = 0;

int voterCount = 0;

void addCandidate() {

if (candidateCount < MAX\_CANDIDATES) {

printf("Enter candidate name: ");

scanf(" %[^\n]", candidates[candidateCount].name);

candidates[candidateCount].voteCount = 0;

candidateCount++;

printf("Candidate added successfully.\n");

} else {

printf("Maximum number of candidates reached.\n");

}

}

void addVoter() {

if (voterCount < MAX\_VOTERS) {

printf("Enter voter ID: ");

scanf(" %[^\n]", voters[voterCount].voterID);

voters[voterCount].hasVoted = 0;

voterCount++;

printf("Voter added successfully.\n");

} else {

printf("Maximum number of voters reached.\n");

}

}

void displayCandidates() {

if (candidateCount == 0) {

printf("No candidates available.\n");

return;

}

printf("\nCandidates:\n");

for (int i = 0; i < candidateCount; i++) {

printf("%d. %s\n", i + 1, candidates[i].name);

}

}

void castVote() {

char voterID[20];

int choice;

printf("Enter your voter ID: ");

scanf(" %[^\n]", voterID);

int voterIndex = -1;

for (int i = 0; i < voterCount; i++) {

if (strcmp(voters[i].voterID, voterID) == 0) {

voterIndex = i;

break;

}

}

if (voterIndex == -1) {

printf("Invalid voter ID.\n");

return;

}

if (voters[voterIndex].hasVoted) {

printf("You have already voted.\n");

return;

}

displayCandidates();

printf("Enter your choice (1-%d): ", candidateCount);

scanf("%d", &choice);

if (choice >= 1 && choice <= candidateCount) {

candidates[choice - 1].voteCount++;

voters[voterIndex].hasVoted = 1;

printf("Vote cast successfully.\n");

} else {

printf("Invalid choice.\n");

}

}

void displayResults() {

if (candidateCount == 0) {

printf("No votes cast yet.\n");

return;

}

printf("\nVoting Results:\n");

for (int i = 0; i < candidateCount; i++) {

printf("%s: %d votes\n", candidates[i].name, candidates[i].voteCount);

}

}

int main() {

int choice;

do {

printf("\nOnline Voting System\n");

printf("1. Add Candidate\n");

printf("2. Add Voter\n");

printf("3. Cast Vote\n");

printf("4. Display Results\n");

printf("5. Exit\n");

printf("Enter your choice: ");

scanf("%d", &choice);

switch (choice) {

case 1:

addCandidate();

break;

case 2:

addVoter();

break;

case 3:

castVote();

break;

case 4:

displayResults();

break;

case 5:

printf("Exiting...\n");

break;

default:

printf("Invalid choice.\n");

}

} while (choice != 5);

return 0;

}

Output





