SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

Programming For Problem Solving

PROJECT

2021 – 2022

VOTING\ELECTION SYSTEM

Done by

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AIM

The online voting/election system is an application for conducting elections to vote for the various candidates. In this project, we have displayed the working of the election and vote counting system, we can also check the current progress of all the candidates during the elections, we also have features to receive feedback and assess why a particular candidate is being voted. The main functionalities of the program is:

1. Adding various candidates who are standing for elections, giving them their own unique election number called candidate number to index them
2. Counting the votes in real time as the voters place their votes, also being able to check the progress of the voting during the elections
3. Receiving feedback for each candidate which helps assess why they are being voted

This project uses C Language for complete functionality.

ALGORITHM

Step 1. Start

Step 2. Declare the file pointer for the file which will be used in the program, also declare the variables ch, name[100], votername[100], regno[100].

Step 3. Initialize the first while loop in the while loop initialize the structure candidate with structure variables name, votes and cno with main calling structure variable c. Also initialize the variable and get number of candidates from the user using printf() and scanf() functions.

Step 4. Initialize the for loop to get all the candidates names and storing their unique candidate numbers and initial votes in the respective structure variables.

Step 5. Open the file using fopen() function in append mode.

Step 6. Initialize the second while loop to begin the voting, using for loop the candidate's names and numbers are displayed. The user is asked to input the candidate number of the candidate they choose to vote for. When a candidate is voted for their votes increment-this is the respective structure variable of the candidate increments by unity.

- Simultaneously when a candidate is voted for the user is asked to input their registration number and also input the reason they choose to vote for that particular candidate. The above information is stored/written into the opened file using the functions fgets() and fprintf(). The file is also closed using the fclose() function.
- If 0 is inputted the voting stops and a menu appears along with the current status of the candidates with regard to their current votes.

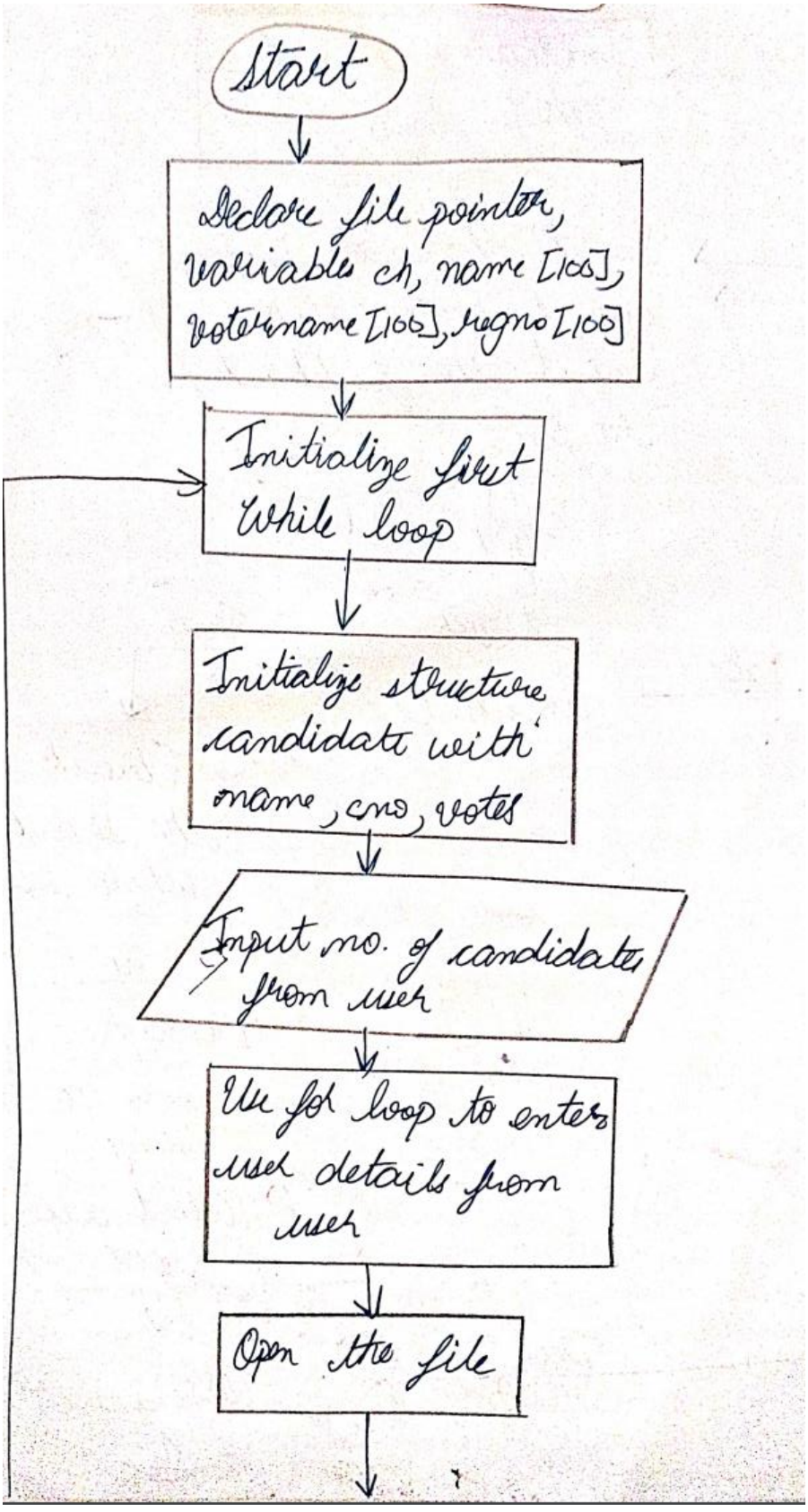
Step 7. From the menu if the user chooses the option to continue voting the continue statement is used which continues to the net iteration of the while loop initialized in step 6, if the user chooses the option to collect all the votes the voted are collected and the lead candidates aka winner(s) of the elections are displayed

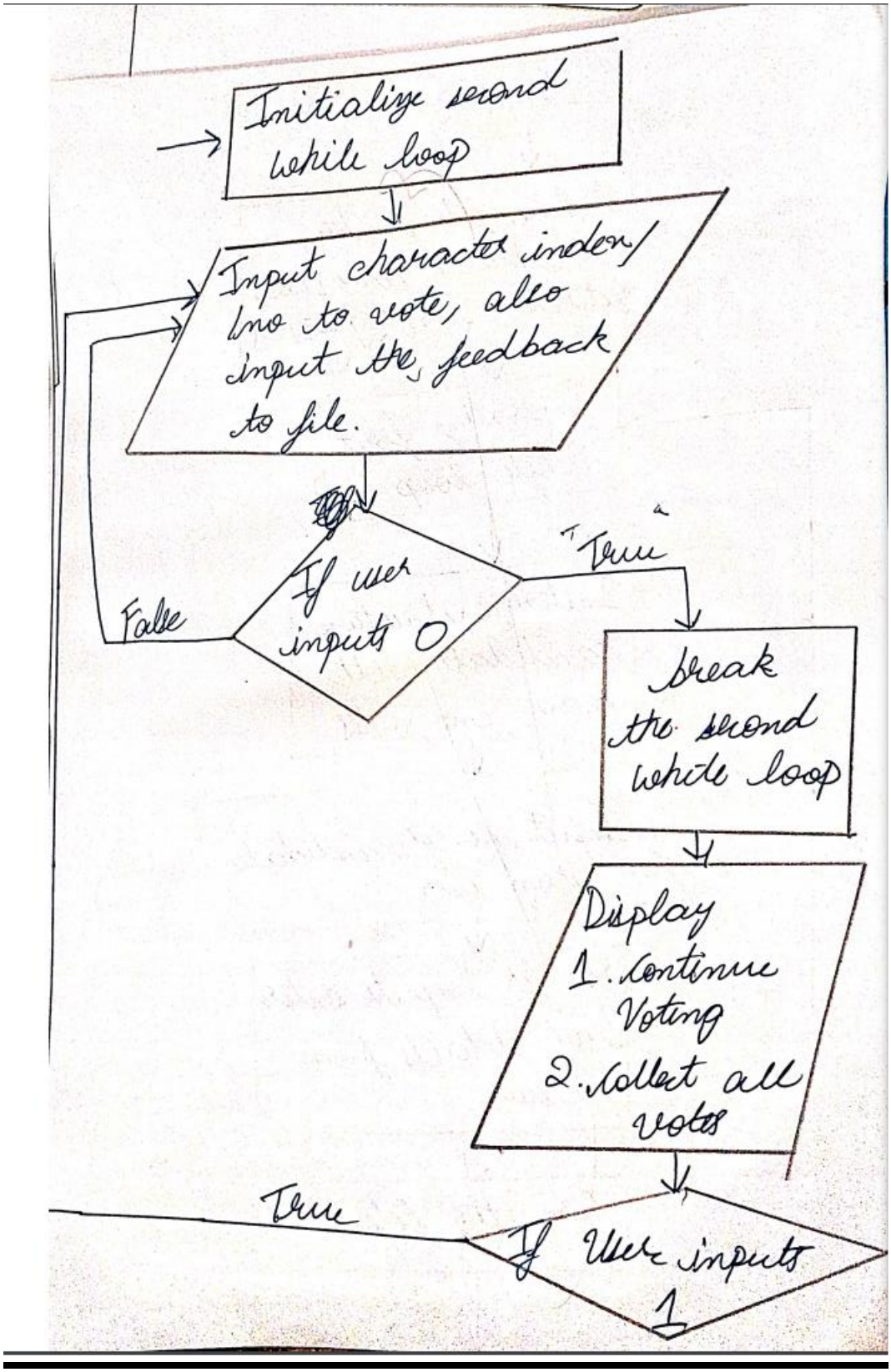
Step 8. Another menu is displayed, the user can choose the index to start a new election or see the feedback of the current/previous election or stop the voting all together.

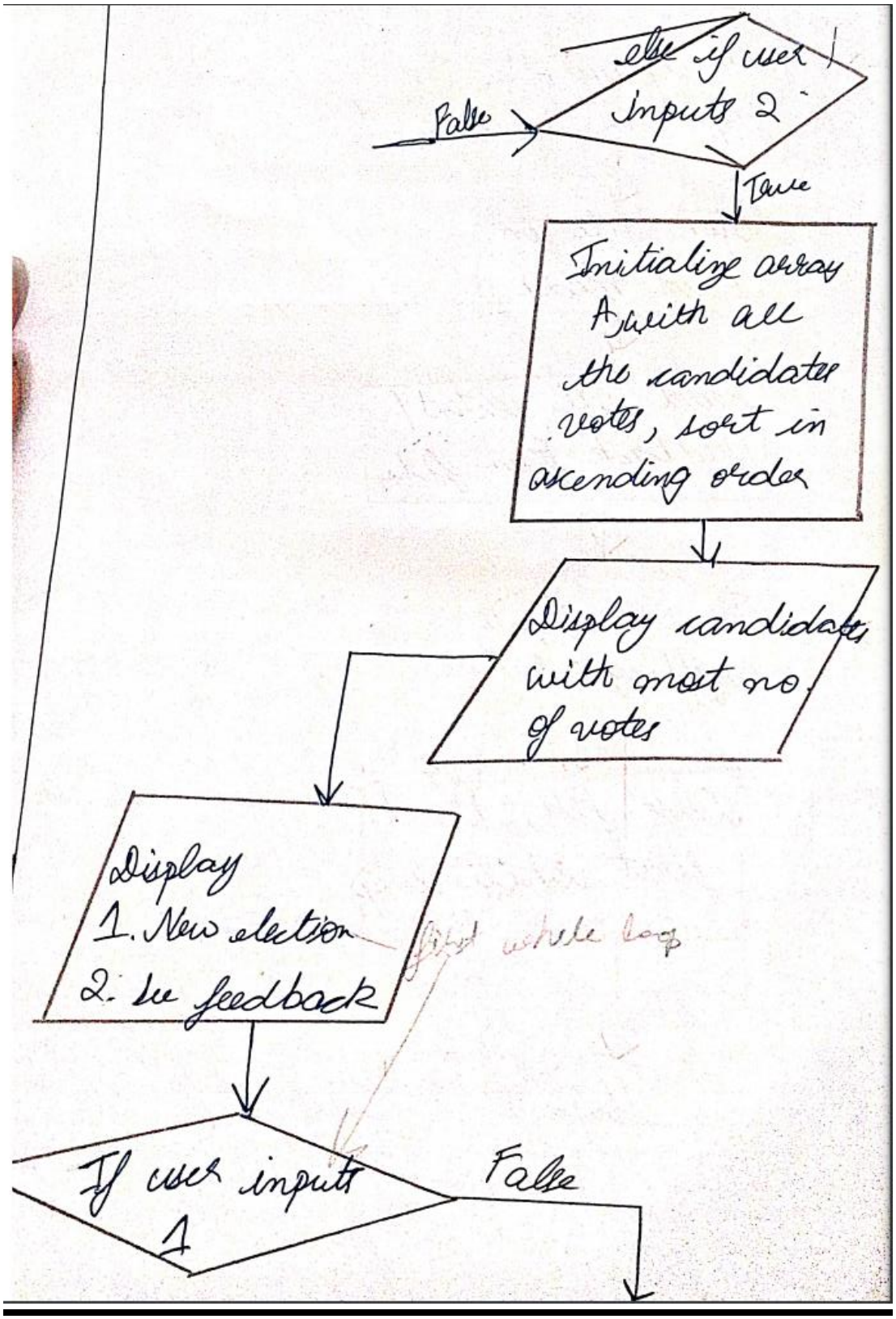
Step 9. According to the index the user inputs, if they choose to start a new election the continue statement is used to go to the next iteration of the first while loop initialized in step 3, if the user chooses to see the feedback the file is opened using fopen()function in read mode, a while loop along with the getc() function is used to display the feedback on the screen. If it is chosen to stop elections all together the file is closed using fclose() function and break statement is used to break the first while loop and thus terminating the program for elections.

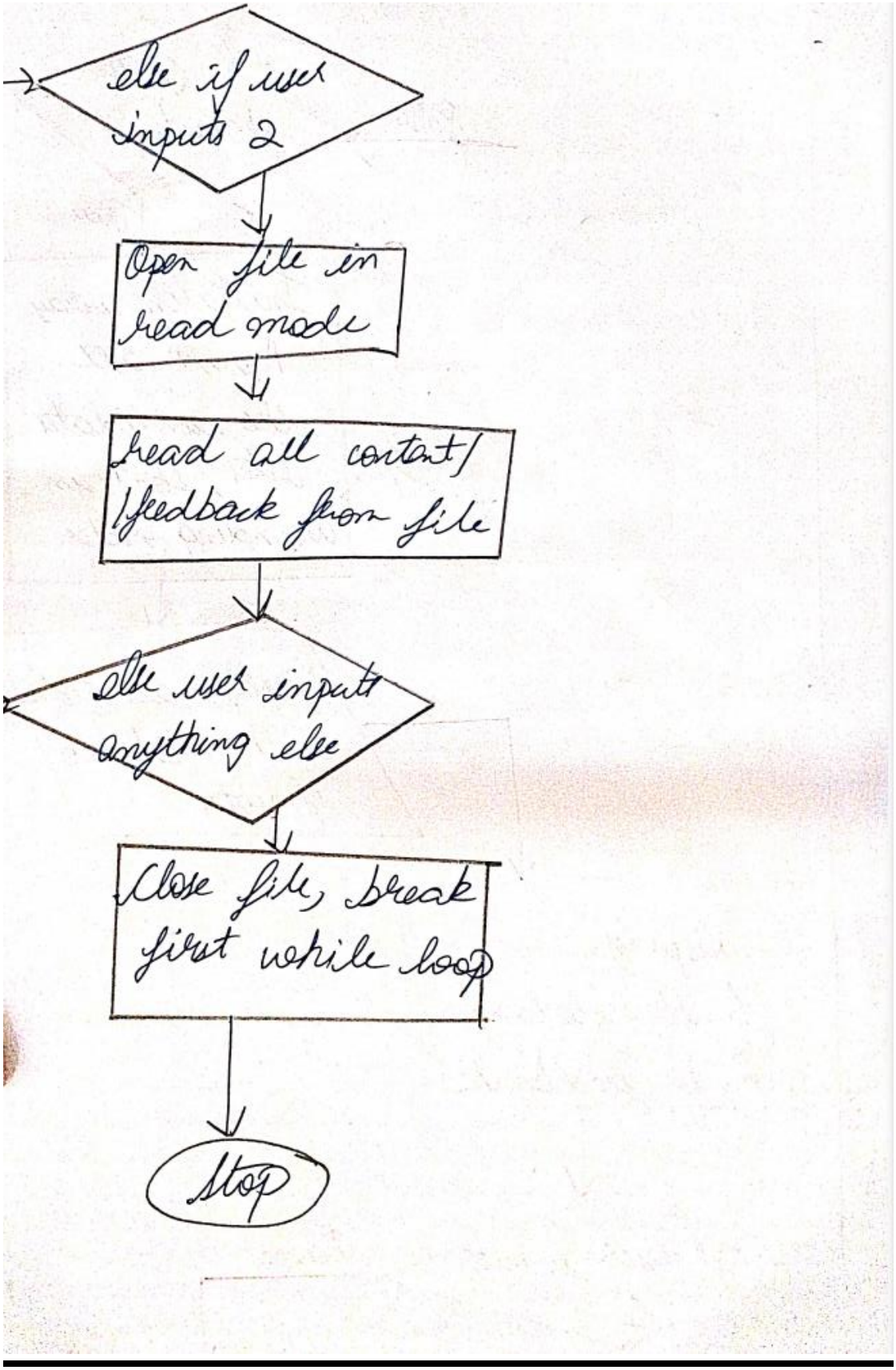
Step 10. Stop

FLOWCHART


Start
Declare file pointer, variables ch, name[100], votername[100], regno[100]
Initialize first While loop
Initialize structure candidate with name, cno, votes
Input no. of candidates from user
Use for loop to enter user details from user
Open the file


Initialize second while loop
Input character index/ no to vote, also input the feedback to file.
If user inputs 0
True
False
Break the second while loop
Display
1. Continue Voting
2. Collect all votes
If User inputs 1
True


else if user inputs 2
False
True
Initialize array A with all the candidates votes, sort in ascending order
Display candidate with most no of votes
Display
1. New election
2. Le feedback
If user inputs 1
False


else if user inputs 2
Open file in read mode
Read all content/ Feedback from file
else user inputs anything else
Close file, break first while loop
Stop

CODE

```c
#include<stdio.h>
#include <conio.h>
#include <string.h>
#include <stdlib.h>


int main() {
    printf("WELCOME TO ELECTION SYSTEM!!!!!");
    FILE *f;

    char ch;
    char sentence[1000];
    char votername[100];
    char regno[100];
    while(1) {

        struct candidate {
            char name[80];
            int votes;
            int cno;
        } c[100];
        int n;
        f=fopen("feedback.txt","w");
        fclose(f);
        printf("\nNo of candidates:");
        scanf("%d", &n);

        for (int i=0; i<n; i++) {
            printf("\nCandidate name:\n");
            scanf("%s", &c[i].name);
            c[i].cno=i;
            c[i].votes=0;
        }



        while(1) {
            printf("\nBEGIN THE VOTING, TYPE 0 TO FINISH VOTING PROCESS\n");
            for (int i=0; i<n; i++) {
                printf("Candidate number %d, %s\n", c[i].cno+1, c[i].name);

            }
            int d;
            int t=3;
```

```
43              int d;
44              int t=3;
45              while(t!=0) {
46
47                  printf("\nSelect candidate number to vote\n");
48                  scanf("%d", &d);
49
50                  for(int i=0; i<n; i++) {
51                      if(d-1==c[i].cno) {
52
53                          c[i].votes++;
54                          printf("\n");
55
56                          f=fopen("feedback.txt","a");
57                          fgets(votername, sizeof(votername), stdin);
58                          fprintf(f, "%s", votername);
59
60                          printf("Registration no:");
61                          fgets(regno, sizeof(regno), stdin);
62                          fprintf(f, "%s\n", regno);
63
64
65                          fprintf(f, "%s\n", c[i].name);
66
67
68
69                          printf("Please specify your reasons for voting this candidate");
70                          fgets(sentence, sizeof(sentence), stdin);
71                          fprintf(f, "%s\n", sentence);
72                          fclose(f);
73                      } else if(d==0) {
74                          t=0;
75
76                          break;
77                      }
78                  }
79              }
80
81              for (int i=0; i<n; i++) {
82
83                  printf("\nCANDIDATE NAME %s, VOTES %d\n", c[i].name, c[i].votes);
84
85              }
86
```

```
            }


            printf("\n1.Continue Voting\n2.Collect all votes\n");
            int b;
            printf("\nSelect option:\n");
            scanf("%d", &b);
            if(b==1) {
                continue;
            } else if(b==2) {

                int A[n];
                for(int i=0; i<n; i++) {
                    A[i]=c[i].votes;
                }



                int temp;
                for (int i=0; i<n; i++) {
                    for (int j=i+1; j<n; j++) {
                        if (A[i]<A[j]) {
                            temp=A[i];
                            A[i]=A[j];
                            A[j]=temp;
                        }
                    }
                }


                int a=A[0];

                printf("\nLEAD CANDIDATES:\n");
                for (int i=0; i<n; i++) {

                    if(a==c[i].votes) {
                        printf("%s, %d votes\n", c[i].name, c[i].votes);
                    }
                }
                break;
            }
        }
```

```
                    if(a==c[i].votes) {
                        printf("%s, %d votes\n", c[i].name, c[i].votes);
                    }
                }
                break;
            }
        }



        printf("\nType 1 to start new election\n Type 2 to see feedback of previous election\nType anything else to end elections\n");
        int s;
        scanf("%d", &s);
        if(s==1) {
            continue;
        } else if (s==2) {
            f=fopen("feedback.txt","r");

            while( (ch=getc(f))!=EOF ) {
                printf("%c",ch);
            }
        }

        else {
            printf("Election ended");
            fclose(f);
            break;
        }
    }
    return 0;
}
```

```
#include<stdio.h>
#include <conio.h>
#include <string.h>
#include <stdlib.h>
int main() {
	printf("WELCOME TO ELECTION SYSTEM!!!!!");
	FILE *f;
	char ch;
	char sentence[1000];
	char votername[100];
	char regno[100];
	while(1) {
		struct candidate {
			char name[80];
			int votes;
			int cno;
		} c[100];
		int n;
		f=fopen("feedback.txt","w");
		fclose(f);
		printf("\nNo of candidates:");
		scanf("%d", &n);
		for (int i=0; i<n; i++) {
			printf("\nCandidate name:\n");
			scanf("%s", &c[i].name);
			c[i].cno=i;
			c[i].votes=0;}
```

```
            while(1) {
                printf("\nBEGIN THE VOTING, TYPE 0 TO FINISH VOTING
PROCESS\n");
                for (int i=0; i<n; i++) {
                    printf("Candidate number %d, %s\n", c[i].cno+1, c[i].name);}
                int d;
                int t=3;
                while(t!=0) {
                    printf("\nSelect candidate number to vote\n");
                    scanf("%d", &d);
                    for(int i=0; i<n; i++) {
                        if(d-1==c[i].cno) {
                            c[i].votes++;
                            printf("\n");
                            f=fopen("feedback.txt","a");
                            fgets(votername, sizeof(votername), stdin);
                            fprintf(f, "%s", votername);
                            printf("Registration no:");
                            fgets(regno, sizeof(regno), stdin);
                            fprintf(f, "%s\n", regno);
                            fprintf(f, "%s\n", c[i].name);
                            printf("Please specify your reasons for voting
this candidate");
                            fgets(sentence, sizeof(sentence), stdin);
                            fprintf(f, "%s\n", sentence);
                            fclose(f);
                        } else if(d==0) {
                            t=0;
```

```
                    break;
                }
            }
        }
        for (int i=0; i<n; i++) {
            printf("\nCANDIDATE NAME %s, VOTES %d\n", c[i].name,
c[i].votes);
        }
        printf("\n1.Continue Voting\n2.Collect all votes\n");
        int b;
        printf("\nSelect option:\n");
        scanf("%d", &b);
        if(b==1) {
            continue;
        } else if(b==2) {
            int A[n];
            for(int i=0; i<n; i++) {
                A[i]=c[i].votes;
            }
            int temp;
            for (int i=0; i<n; i++) {
                for (int j=i+1; j<n; j++) {
                    if (A[i]<A[j]) {
                        temp=A[i];
                        A[i]=A[j];
                        A[j]=temp;
                    }
```

```
                }
            }
            int a=A[0];
            printf("\nLEAD CANDIDATES:\n");
            for (int i=0; i<n; i++) {
                if(a==c[i].votes) {
                    printf("%s, %d votes\n", c[i].name, c[i].votes);
                }
            }
            break;
        }
    }
    printf("\nType 1 to start new election\n Type 2 to see feedback of previous election\nType anything else to end elections\n");
    int s;
    scanf("%d", &s);
    if(s==1) {
        continue;
    } else if (s==2) {
        f=fopen("feedback.txt","r");
        while( (ch=getc(f))!=EOF ) {
            printf("%c",ch);
        }
    }
    else {
        printf("Election ended");
        fclose(f);
```

```
                    break;
                }
            }
            return 0;
}
```

SAMPLE OUTPUT

```
WELCOME TO ELECTION SYSTEM!!!!!
No of candidates:5

Candidate name:
Amulya

Candidate name:
Sathvik

Candidate name:
Emmanuel

Candidate name:
Amy

Candidate name:
Raj

BEGIN THE VOTING, TYPE 0 TO FINISH VOTING PROCESS
Candidate number 1, Amulya
Candidate number 2, Sathvik
Candidate number 3, Emmanuel
Candidate number 4, Amy
Candidate number 5, Raj

Select candidate number to vote
1

Registration no:RA2111027010059
Please specify your reasons for voting this candidateshe is very competent and intelligent

Select candidate number to vote
2

Registration no:RA2111027010064
Please specify your reasons for voting this candidateseems to be a worthy candidate

Select candidate number to vote
3

Registration no:RA2111027010077
Please specify your reasons for voting this candidatecomendable leadership skills

Select candidate number to vote
4

Registration no:RA2111027010061
Please specify your reasons for voting this candidateintelligent, kind and seems to be a good choice

Select candidate number to vote
5
```

```
Select candidate number to vote
5

Registration no:RA2111027010088
Please specify your reasons for voting this candidateseems capable

Select candidate number to vote
1

Registration no:RA2111027010025
Please specify your reasons for voting this candidatecompetent leadership skills

Select candidate number to vote
1

Registration no:RA2111027010023
Please specify your reasons for voting this candidategood leader, very good campaign

Select candidate number to vote
2

Registration no:RA2111027010019
Please specify your reasons for voting this candidategood leadership skills, popular, kind

Select candidate number to vote
3

Registration no:RA2111027010011
Please specify your reasons for voting this candidatehe is my friend and good with people , deserves the vote

Select candidate number to vote
1

Registration no:RA21110270100123
Please specify your reasons for voting this candidatevery good campaign, good student and dedicated

Select candidate number to vote
0

CANDIDATE NAME Amulya, VOTES 4

CANDIDATE NAME Sathvik, VOTES 2

CANDIDATE NAME Emmanuel, VOTES 2

CANDIDATE NAME Amy, VOTES 1

CANDIDATE NAME Raj, VOTES 1

1.Continue Voting
2.Collect all votes
```

```
1.Continue Voting
2.Collect all votes

Select option:
1

BEGIN THE VOTING, TYPE 0 TO FINISH VOTING PROCESS
Candidate number 1, Amulya
Candidate number 2, Sathvik
Candidate number 3, Emmanuel
Candidate number 4, Amy
Candidate number 5, Raj

Select candidate number to vote
4

Registration no:RA2111027010045
Please specify your reasons for voting this candidateshe is my friend and very invested in the job

Select candidate number to vote
5

Registration no:RA2111027010089
Please specify your reasons for voting this candidateis good and serious

Select candidate number to vote
0

CANDIDATE NAME Amulya, VOTES 4

CANDIDATE NAME Sathvik, VOTES 2

CANDIDATE NAME Emmanuel, VOTES 2

CANDIDATE NAME Amy, VOTES 2

CANDIDATE NAME Raj, VOTES 2

1.Continue Voting
2.Collect all votes

Select option:
2

LEAD CANDIDATES:
Amulya, 4 votes

Type 1 to start new election
 Type 2 to see feedback of previous election
Type anything else to end elections
```

```
Type 1 to start new election
 Type 2 to see feedback of previous election
Type anything else to end elections
2

RA2111027010059

Amulya
she is very competent and intelligent


RA2111027010064

Sathvik
seems to be a worthy candidate


RA2111027010077

Emmanuel
comendable leadership skills


RA2111027010061

Amy
intelligent, kind and seems to be a good choice


RA2111027010088

Raj
seems capable


RA2111027010025

Amulya
competent leadership skills


RA2111027010023

Amulya
good leader, very good campaign


RA2111027010019

Sathvik
good leadership skills, popular, kind
```

```
RA2111027010011

Emmanuel
he is my friend and good with people , deserves the vote


RA21110270100123

Amulya
very good campaign, good student and dedicated


RA2111027010045

Amy
she is my friend and very invested in the job


RA2111027010089

Raj
is good and serious


No of candidates:3

Candidate name:
amy

Candidate name:
sathvik

Candidate name:
emmanuel

BEGIN THE VOTING, TYPE 0 TO FINISH VOTING PROCESS
Candidate number 1, amy
Candidate number 2, sathvik
Candidate number 3, emmanuel

Select candidate number to vote
1

Registration no:RA2111027010023
Please specify your reasons for voting this candidateis a good choice

Select candidate number to vote
2
```

```
Select candidate number to vote
2

Registration no:RA2111027010034
Please specify your reasons for voting this candidategood leadership skills

Select candidate number to vote
3

Registration no:RA2111027010011
Please specify your reasons for voting this candidateis a peoples person

Select candidate number to vote
2

Registration no:RA21110270100234
Please specify your reasons for voting this candidategood choice for elections, popular and a leader

Select candidate number to vote
0

CANDIDATE NAME amy, VOTES 1

CANDIDATE NAME sathvik, VOTES 2

CANDIDATE NAME emmanuel, VOTES 1

1.Continue Voting
2.Collect all votes

Select option:
2

LEAD CANDIDATES:
sathvik, 2 votes

Type 1 to start new election
 Type 2 to see feedback of previous election
Type anything else to end elections
0
Election ended
--------------------------------
Process exited after 512.2 seconds with return value 0
Press any key to continue . . .
```

RESULT

Using only C language we have successfully created a functioning election/voting system which enables the user to not only to vote for their candidate but also provide feedback, add many candidates. The efficient use of pointers have helped in using files in the program. The program has also very heavily used all the functionalities of structures. We have also used arrays, for, while loop and if-else if-else statements. String functions have also been used. The header files which have been used are seen on the top of the program.