PROGRAMMING FUNDAMENTALS
CT-175

PROJECT REPORT

ONLINE VOTING SYSYEM

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COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

SECTION: B

CONTRIBUTION OF EACH MEMBER:

ZAINAB FURQAN AHMED [CT-067]:

- Draft of project
- Syntax error
- Handling of file in result
- Testing cases of result

HAFSA IMTIAZ [CT-60]:

- Report
- Debugging logical error in student function
- Testing cases of student
- Finalization of project

ASIFA SIRAJ [CT-70]:

- Idea of project
- Flow of data handling
- Flowchart
- Testing cases of admin
- Debugging logical error in admin function

DESCRIPTION:

PURPOSE:

A platform known as an **online voting system** enables organisational members to submit their votes digitally through a website, a smartphone app, or any other internet-connected device. Using the online voting method, records of voters, candidates, and results are kept. This solution reduces workload, saves time, makes information available when needed, and secures data. Online voting can also increase voter participation. Voters may find it simple to feel cut off from the routine practise of casting their ballots. However, they may view the results immediately while voting online, which increases their sense of involvement.

FEATURES:

Our code includes the following features:

1.An admin block with access to all information and the ability to input information about candidates, the number of voters, and the year in which election was conducted.

2.Our system also informs us how many votes each contender receives and who wins.

3. Given the goal of our course, our project is entirely focused on the fundamentals/logics of programming.

4. it also includes restrictions for voters to only vote once making voting independent of manipulation.
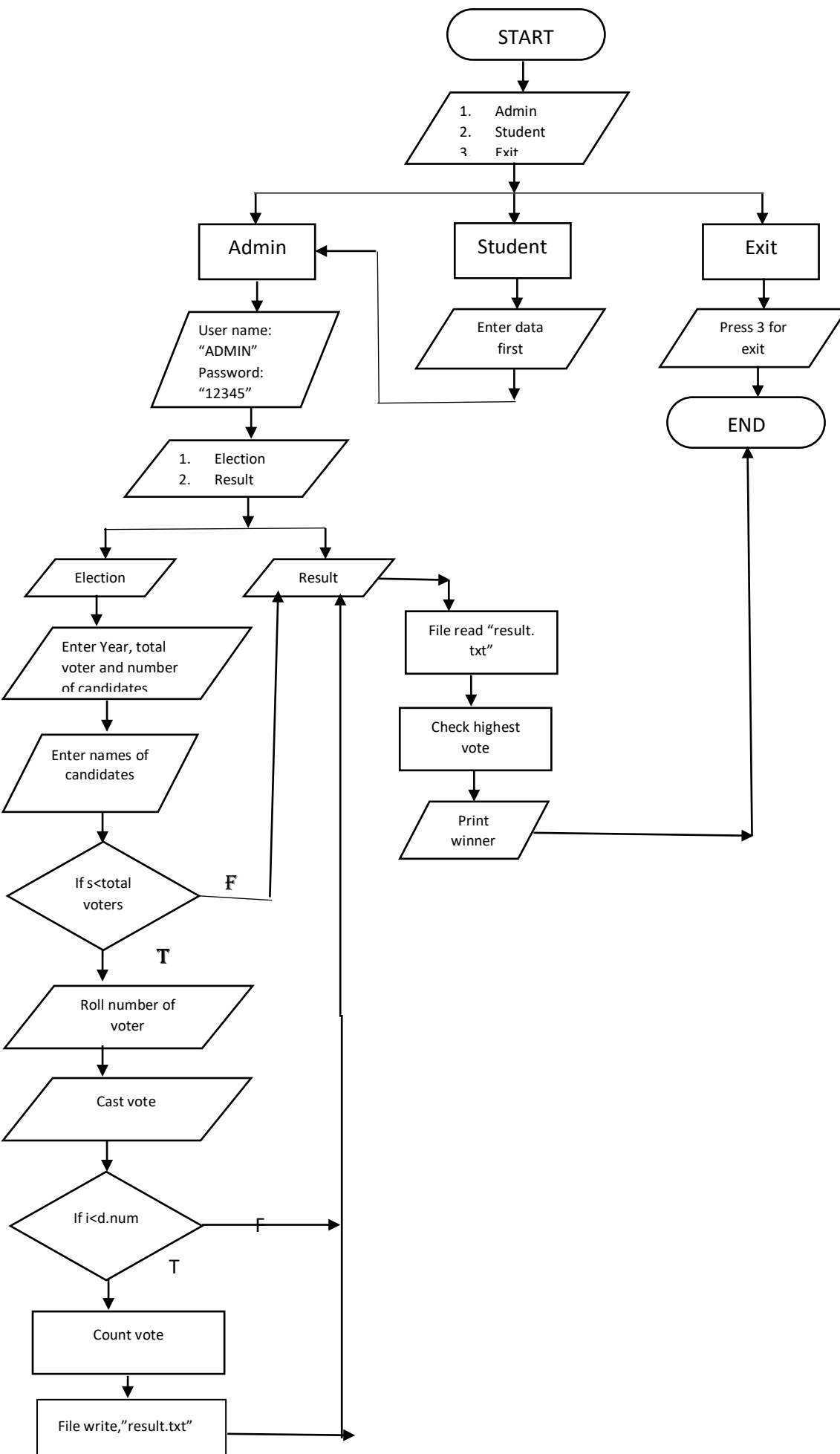
MOST CHALENGING PART:

The hardest aspect was that we had trouble in opening files. We initially found it challenging, but we eventually succeeded since using files was essential; otherwise, our code would have not been complete. Another significant issue was passing values or references to functions. The final issue was storing strings in arrays containing spaces. With group efforts we overcome all the hurdles making our project implementable.

FUNCTIONALITIES:

We include the following course-related functionality into our programme

- ❖ <u>Loops</u>: We utilise loops to enter candidate data and count the number of students who cast votes.
- ❖ <u>If else and switch statements</u>: If statements are used to verify whether an input is legitimate or not, and switch statements are used to ask the user for selections.
- ❖ <u>Structure</u>: Structures are used to hold data from the administrative block
- ❖ Pointers: Use to pass data by reference instead of values. Makes it more user friendly
- ❖ <u>Arrays</u>: We use arrays to store strings.
- ❖ <u>Header file</u>: Header file, in which we write the entirety of our programme and declare in a separate file to make it more organized.
- ❖ <u>File</u>: We utilise files to display results, including the winner.
- ❖ <u>Functions</u>: Our programme has a number of functions for administration, data input, vote counting, and result generation.

FLOWCHART

START

1. Admin
2. Student
3. Exit

Admin

Student

Exit

User name:
"ADMIN"
Password:
"12345"

Enter data
first

Press 3 for
exit

END

1. Election
2. Result

Election

Result

File read "result.
txt"

Enter Year, total
voter and number
of candidates

Check highest
vote

Enter names of
candidates

Print
winner

If s<total
voters

F

T

Roll number of
voter

Cast vote

If i<d.num

F

T

Count vote

File write,"result.txt"

SCREENSHOTS OF SOURCE CODE:

```c
1   //ONLINE VOTING SYSTEM
2   //header file
3
4   #include<stdio.h>
5   #include<string.h>
6   #include<stdlib.h>
7
8
9   struct data{
10
11      int num,year,total_voters;
12      char candidates[100];
13
14  };
15
16  //ADMIN ENTERING DATA
17
18  void input_data(){
19
20      struct data d;
21      int i;
22      printf("\n---------------------------\n");
```

```c
22      printf("\n---------------------------\n");
23      printf("enter year of election: \n");
24      scanf("%d",&d.year);
25      printf("\nHow many voters are there: \n");
26      scanf("%d",&d.total_voters);
27      printf("\nNumber of candidates: \n");
28          scanf("%d",&d.num);
29      struct data c[d.num];
30
31      for(i=0;i<d.num;i++){
32
33              printf("enter canditate %d: ",i+1);
34          fflush(stdin);
35          gets(c[i].candidates);
36                  fflush(stdin);
37
38      }
39      char q;
40      printf("Allow students to start voting?\n y for yes and n for no\n");
41          fflush(stdin);
42          scanf("%c",&q);
43
```

```c
43
44              if(q=='y'|| q=='Y') {
45              system("cls");
46              student_data(c,d);
47  }
48      else if(q=='n'|| q=='N'){
49
50              printf("\nexiting block.....");
51              exit(0);
52
53      }
54
55  }
56
57
58  //ADMIN LOGIN
59  void admin_data(){
60
61      printf("\n---------------------------\n");
62      char admin[6]="ADMIN";
63      char password[6]="12345";
64      printf("\nKindly enter credentials first\n");
```

```c
        printf("\nKindly enter credentials first\n");
    while(1){

    printf("Enter username:\n");
        scanf("%s",admin);
    printf("Enter password:\n");
    scanf("%s",password);

        if(strcmp(admin,"ADMIN")!=0||strcmp(password,"12345")!=0){
            printf("wrong username or password!\n");
                }
        else{
            printf("\n\t\t Successfully login!\n\t\tWELCOME TO ADMIN BLOCK!");
                    break;
                }
    }
    int opt;

    printf("\t\n Enter option:\n\t 1-New election entry\n\t 2-Result\n");
    scanf("%d",&opt);

    if(opt==1){
```

```c
    if(opt==1){
        input_data();
    }
    if(opt==2){
        result();
        }
}

//STUDENT DATA
int student_data(struct data c[],struct data d){

int max=0;
int roll[d.total_voters],s;
 int freq[100000]={0};


int count[1000]={0};

        for(s=0;s<d.total_voters;s++){

        printf("\n---------------------------\n");
```

```c
        printf("\n---------------------------\n");
        printf("\t\t STUDENT BLOCK!\n");
                printf("\n Enter your roll no: ");
                scanf("%d",&roll[s]);

                ++freq[roll[s]];
                if(freq[roll[s]]>1){
                 system("cls");
                printf("You have already casted vote!\n");
                s--;

        }

                else if(!(roll[s]>=0&& roll[s]<=d.total_voters)){
    system("cls");
                printf("\nInvalid.Please enter correct roll number\n");
                s--;
                }

                else{
                int v,i;
                int a[d.num];
```

```c
                    int a[d.num];
                    char vote[100]={'\0'};
            printf("welcome!\n what would you like to do:\n");
            printf("1- Cast vote\n 2-Exit\n");
            scanf("%d",&v);
            if(v==2){
                    count[i]+=0;
            }

        if(v==1){
            printf("\nPlease give vote to one of the following candidates:\n");
            for( i=0;i<d.num;i++){
                    printf("%s\n",c[i].candidates);
            }

             printf("Your vote: ");

            fflush(stdin);
            gets(vote);
             printf("\n-------------------------\n");
    system("cls");
            for( i=0;i<d.num;i++){
```

```c
            for( i=0;i<d.num;i++){
                    if(strcmp(vote,c[i].candidates)==0){
                            count[i]++;

                    }
                }

            }

     }
     // system("cls");
}
 printf("\nTo know the result kindly contact admin.");
        FILE *ptr=fopen("result.txt","w");
         if(ptr == NULL){
        printf("file not created!");
 }
        else{
                fprintf(ptr,"\n\t\tRESULT FOR YEAR %d\n",d.year);
         for( int i=0;i<d.num;i++){

                fprintf(ptr,"%s  :  %d\n ",c[i].candidates,count[i]);
```

```c
                fprintf(ptr,"%s  :  %d\n ",c[i].candidates,count[i]);
                }
            }
    fclose(ptr);

    FILE *fp=fopen("result.txt","a");
    if(fp ==NULL){
            printf("file not created!");
    }
      else{
                    int max=0,k=1;
            char h[10]={'\0'};

            for(int i=0;i<d.num;i++){
                    if(count[i]>max){
            max=count[i];
            strcpy(h,c[i].candidates);

            }
}
            fprintf(fp,"\nWINNER:\n%s wins with %d votes",h,max);

```

```c
190                 fclose(fp);
191
192     }
193 }
194
195     //CREATING RESULT IN FILE
196
197 result(struct data d,struct data c[],int count[]){
198         FILE    *textfile;
199         char    *text;
200         long    numbytes;
201         printf("Calculating result.....\n\n");
202
203         textfile = fopen("result.txt", "r");
204         if(textfile == NULL){
205             printf("no result yet\n");
206             return 1;
207     }
208         fseek(textfile, 0L,SEEK_END);
209         numbytes = ftell(textfile);
210         fseek(textfile, 0L, SEEK_SET);
211
212
```

```c
201         printf("Calculating result.....\n\n");
202
203         textfile = fopen("result.txt", "r");
204         if(textfile == NULL){
205             printf("no result yet\n");
206             return 1;
207     }
208         fseek(textfile, 0L,SEEK_END);
209         numbytes = ftell(textfile);
210         fseek(textfile, 0L, SEEK_SET);
211
212         text = (char*)calloc(numbytes, sizeof(char));
213         if(text == NULL)
214             return 1;
215
216         fread(text, sizeof(char), numbytes, textfile);
217         fclose(textfile);
218
219         printf(text);
220         free(text);
221
222 }
```

```c
6   #include"header.h"
7   int main(){
8
9           int n;
10          printf("-----------------------------------------
11          printf("\t\tWELCOME to Online Voting Portal\n");
12                  printf("-----------------------------------
13          printf("ENTER CATEGORY YOU WANT TO LOG IN:\n");
14          printf("1=Admin:\n2=Student:\n3=Exit:\n You:");
15
16          scanf("%d",&n);
17
18          switch(n){
19
20          case 1:
21                  admin_data();
22          break;
23
24          case 2:
25                  printf("To proceed admin should enter data first.\n");
26                  admin_data();
27          break;
28
29          case 3:
30                  return 0;
31          break;
32
33          default:
34                  printf("INVALID SELECTION\n");
35      }
36
37  }
38
```