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#include <stdlib.h>
#include<stdio.h>
#include<string.h>

void printMessageCenter(const char* message)
{
    int len =0;
    int pos = 0;
    //calculate how many space need to print
    len = (78 - strlen(message))/2;
    printf("\t\t\t");
    for(pos =0 ; pos < len ; pos++)
    {
        //print space
        printf(" ");
    }
    //print message
    printf("%s",message);
}

void headMessage(const char *message)
{
    system("cls");
    printf("\t\t\t#####
#####");
    printf("\n\t\t\t#####
#####");
    printf("\n\t\t\t#####          Voting
Machine          #####");
    printf("\n\t\t\t#####
#####");
    printf("\n\t\t\t#####
#####");
    printf("\n\t\t\t-----
-----\n");
    printMessageCenter(message);
}

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        printf("\n\t\t\t\t-----\n");
    }

void welcomeMessage()
{
    headMessage("Welcome to The Election");
    printf("\n\n\n\n\n");
    printf("\n\t\t\t\t-----\n");
    printf("\n\t\t\t\t=====");
    printf("\n\t\t\t\t=                WELCOME                =");
    printf("\n\t\t\t\t=                TO                =");
    printf("\n\t\t\t\t=                ELECTRONIC                =");
    printf("\n\t\t\t\t=                VOTING                =");
    printf("\n\t\t\t\t=                MACHINE                =");
    printf("\n\t\t\t\t=====");
    printf("\n\t\t\t\t-----\n");
    printf("\n\n\n\t\t\t\tEnter any key to continue.....");
    getch();
}

void main()
{
    welcomeMessage();
    int n,n1,n3,n4,n5,maxi,sum,pos,flag,k=0,co=0,br=0;
    char filename[10];
    char st[100][100],vote[100][100];
    char sy[100],cp[20],t[100];
    int count[100]={0};char n2,a;
    printf("
        ..... WELCOME TO CLAIM YOUR RIGHT TO VOTE
        ..... \n");
    printf("\n");
    printf("\n");
    printf("\n");
    printf("\n\n\n");
    headMessage("CANDIDATES");
    printf("\nEnter the number of candidates participating in the election
    :\n");//entering candidate details
    scanf("%d",&n5);
    int i = 0,j;
    while(i<n5)
    {
        int temp=0;
        printf("\n\n\n");
        printf("=====for %d candidate===== \n",i+1);
        printf("\n\n");
        printf("Enter the Name of the candidate : \n");
        scanf("%s",st[i]);
        printf("\nEnter the Symbol of the candidate :\n");
    }

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scanf(" %c",&a);
for(j = 0; j<i; j++)
{
    if(sy[j] == a)
    {
        printf("\n\nThe symbol is already taken.\n\n");
        printf("Please re-enter the details of the candidate.\n");
        temp = 1;
        break;
    }
}
if (temp == 0)
{
    sy[i] = a;
    i++;
}
}

printf("\n\n\n");
printf("Enter 1 to vote or any other key to exit the poll :\n");
scanf("%d",&n1);
if(n1!=1)
    exit(1);
while(n1==1)
{printf("\n\n\n");printf("\n\n\n");
    printf("Press enter to continue....\n");
    getch();
    char *date = malloc(sizeof(char) * 8);
    headMessage("VOTER DETAILS");
    printf("\nEnter your voter ID\n");
    scanf("%s",date);
    strcpy(vote[k],date);
    k++;

    if(strcmp(t,date)==0)
        co=-1;

    for(i=0;i<k+1;i++)
    {
        if(strcmp(date,vote[i])==0)
            co++;
    }
    if(co==1)
        flag=0;
    else
        flag=1;
    co=0;
}

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if(flag==0)
{

    FILE *fp = fopen("voters.csv", "r");

    if (!fp) {
        printf("Can't open file\n");
        return 0;
    }

    char buf[1024]; //Buffer of 1 kilo byte; Can be varied accordingly
    int field_count = 0;

    int entries = 0;
    fgets(buf, 1024, fp); //Skip heading row
    char *field = strtok(buf, ",");
    while(fgets(buf, 1024, fp))
    {
        field_count = 0;
        field = strtok(buf, ","); //Store next kilobyte into buffer;
        if(strcmp(field,date) == 0) //Check if date matches input
        {
            while(field){
                if (field_count == 0) {
                    printf("\nVOTER ID:\t");
                }
                if (field_count == 1) {
                    printf("NAME:\t");
                }
                if (field_count == 2) {
                    printf("AGE:\t");
                }

                printf("%s\n", field);
                field = strtok(NULL, ",");

                field_count++;
            }
            printf("\n");
        }
    }

    fclose(fp);

    printf("\n\n\n"); printf("\n\n\n");
    printf("Press any key to continue.....\n");

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getch();

printf("Cast your vote by selecting the symbol of your representative\n");
headMessage("CASTING THE VOTE");
printf("\n");printf("\n");printf("\n");
printf("Enter the symbol of your Representative :\n");
for(i=0;i<n5;i++)
{

    printf("%d.  %s (%c)\n",i+1,st[i],sy[i]);
}

int fl=0;
scanf(" %c",&n2);
for(i=0;i<n5;i++)
{

    if(n2==sy[i])
        {fl=1;
        break;
        }
    else
        fl=0;
}

if(fl==1)

{

    for(i=0;i<n5;i++)
    {

        if(n2==sy[i])
            count[i]++;

    }

    printf("\aThank You ! Your vote has been
casted.\n");printf("\n\n\n");printf("\n\n\n");
    printf("Press any key to continue\n");
    getch();}
else{

    strcpy(t,date);
    printf("\n\n\n");
    printf("\aWrong symbol is entered. Enter the correct
symbol\n");

    printf("The details are to be re-entered.\n");
}
}

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        printf("\n\n\n");
        printf("Press any key to continue\n");
        getch();
        continue;
    }

headMessage("MENU");

while(n1==1)
{
    printf("\n");printf("\n");printf("\n");

    printf("Enter your choice \n1. Results\n2. Difference between the votes
of any two candidates\n3. Finish your voting\n4. EXIT the Poll\n ");
    scanf("%d",&n);

    if(n==1)
    {
        headMessage("Results");
        printf("\n\n\n");
        printf("The Result according to votes casted so far is as follows
: \n");
        printf("\n");printf("\n");printf("\n");
        for(i=0;i<n5;i++)
        {
            printf(" %s( %c):  %d\n",st[i],sy[i],count[i]);
        }
    }
    else if(n==2)
    {
        headMessage("Difference");
        printf("\n\n\n");
        for(i=0;i<n5;i++)
        {
            printf("%d.  %s (%c)\n",i+1,st[i],sy[i]);
        }
        printf("Enter the serial nos. of whose vote count differences are
to be known : \n");

        scanf("%d%d",&n3,&n4);
        if(count[n3-1]==count[n4-1])
            printf("It's a Tie between both the candidates'\n");
        printf("\n\n\n");
        printf("The difference between %s and %s is %d",st[n3-1],st[n4-
1],count[n3-1]-count[n4-1]);
    }
}

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    }
    else if(n==3)
    {
        break;
    }
    else if(n>4)
    {

        printf("\aWRONG OPTION ENTERED TRY AGAIN");
    }
    else
        n1=0;
}
}

else
    printf("\a\a\a\a\aError!!!! You already casted your vote
");printf("\n\n\n");
    printf("press any key to continue\n");
}
headMessage(" FINAL RESULTS");
for(i=0; i<n5; i++)
{

    /* File name for storing Candidate details */
    sprintf(filename, "file%d.apk", i+1);
    FILE * fPtr;

    /* If above operation is failed print error and exit */
    if(fPtr == NULL)
    {
        /* File not created hence exit */
        printf("Unable to create file.\n");
        exit(EXIT_FAILURE);
    }

    /* Writing data in the file */
    fPtr = fopen(filename, "w");
    printf("\nCandidate : %s",st[i]);

    fprintf(fPtr,"candidate:%s\n",st[i]);

    printf("\t Symbol : %c",sy[i]);
    fprintf(fPtr,"symbol:%c\n",sy[i]);

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printf("\t Votes : %d\n",count[i]);  
fprintf(fPtr,"votes:%d\n",count[i]);  
  
/* Closing the file */  
fclose(fPtr);  
}}
```