Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
Semester: (Fall, Year:2021), B.Sc. in CSE (Day)

Course Title: Data Structure
Course Code: CSE 106 Section:PC-DA

Lab Project Name: CR Select with voting system.

Student Details

Name : Rani Mia
ID: 213902058

Submission Date : 29/12/22
Course Teacher's Name : Jarin Tasnim Tonvi

[For Teachers use only: Don't Write Anything inside this box]

Lab Project Status

Marks: …… Signature: ..... Comments:

..... Date: .....

Table of Contents

Chapter 1

Introduction

1.1 Introduction

CR Selection, the project through which students can choose their favorite CR

by voting system.

In this project of mine I have mainly used the linked list, Linear search and

Insertion sort syntax

of the data structure, also, I used some more syntax of C programming.

Through which we can read

the code very easily and Understand simply.

Features of this project are: 1. Insert 2. Display and 3. Calculating vote.

1.2 Design Goals/Objective

In this project we are going to explain about the CR select. This project has a facility to allow students to choose their favorite person who won the CR vote. The system provides access to the student.

Chapter 2

2. Implementation

2.1.Source code:

```
#include <iostream>
#include <string>
#include <bits/stdc++.h>
using namespace std;

/*
 all insertion function for candidate
*/
struct Node
{
   char name[30];
   int VoteCus=0;
   struct Node *next;
};

int totalVote=0;
```

```
struct Node *head;

//insert first
void insertFirst(char data[30])
{
   struct Node *newNode;
   newNode =(struct Node*) malloc(sizeof(struct Node));
   strcpy(newNode->name,data);
   if(head==NULL)
   {
      newNode->next=NULL;
      head=newNode;
   }
   else
   {
      newNode->next=head;
      head=newNode;
   }
}

//insert end
void insertEnd(char data[30])
{
   struct Node *newNode;
   newNode =(struct Node*) malloc(sizeof(struct Node));
   strcpy(newNode->name,data);
   newNode->next=NULL;
   if(head==NULL)
   {
      head=newNode;
   }
   else
   {
      struct Node *temp=head;
      while(temp->next!=NULL)
      {
         temp= temp->next;
      }
      temp->next=newNode;
   }
}
```

```
//insert any position
void insertAnyPosition(char data[30],int position)
{
   struct Node *newNode;
   newNode=(struct Node*) malloc(sizeof(struct Node));
   strcpy(newNode->name,data);
   if(position==1)
   {
      newNode->next=head;
      head=newNode;
      return ;
   }
   else
   {
      struct Node *temp=head;
      for(int i=0; i<position-2; i++)
      {
         temp=temp->next;
      }
      newNode->next=temp->next;
      temp->next=newNode;
   }
}


//delete first
void delete_First ()
{
   head = head->next;
}


//delete end
void delete_End ()
{
   struct Node* temp = head;
   while(temp->next->next!=NULL)
   {
      temp = temp->next;
   }
   temp->next = NULL;
}
```

```
//delete at any postion
void deleteAtAnyPosition(int position)
{
   struct Node* temp = head;

   if(position==1)
   {
      head=temp->next->next;
      return ;
   }
   else
   {
      for(int i=2; i< position; i++)
      {
         if(temp->next!=NULL)
         {
            temp = temp->next;
         }
      }
      temp->next = temp->next->next;
   }

}

/*
It is candidate name display function
*/
void display()
{
   if(head==NULL)
   {
      printf("empty");
   }
   else
   {
      int count=1;
      printf("*********Welcome to the voting system project*********\n\n");
      printf("                    CR Election                    \n\n");
      printf("*****************************************************\n");

      struct Node *temp=head;
      while (temp->next!=NULL)
```

```
        {
            printf("================   %d.%s\n",count,temp->name);
            temp=temp->next;
            count++;
        }
        printf("================   %d.%s\n",count,temp->name);
        printf("\n");
    }
}




/*
It is Calculating function
*/
void calculatingVote(int position)
{
    struct Node *temp=head;
    for(int i=1; i< position; i++)
    {
        temp = temp->next;
    }
    totalVote++;
    temp->VoteCus++;
}


/*
Here is insertion sorting Data structure
It is result Display function
*/
void ResultDisplay()
{

    struct Node *i,*j;
    int tempData;
    char name[100];

    for(i=head; i->next!=NULL; i=i->next)
    {
        for(j=i->next; j!=NULL; j=j->next)
        {
```

```
            if(i->VoteCus<j->VoteCus)
            {
               tempData=i->VoteCus;
               i->VoteCus=j->VoteCus;
               j->VoteCus=tempData;
               strcpy(name,i->name);
               strcpy(i->name,j->name);
               strcpy(j->name,name);
            }
         }
      }
      //result show
      if(head==NULL)
      {
         printf("empty");
      }
      else
      {
         int count=1;
         printf("*********        Cr Voting Result    *********\n\n");
         printf("                   CR election                    \n\n");
         printf("*************************************************************\n");

         struct Node *temp=head;
         while (temp->next!=NULL)
         {
            printf(" %d.%s  == Total vote ================
%d\n",count,temp->name,temp->VoteCus);
            temp=temp->next;
            count++;
         }
         printf(" %d.%s  == Total vote ================
%d\n",count,temp->name,temp->VoteCus);

      }
}


/*
Here is search linear search Data structure
It is individual result function
*/
void individualResult()
```

```
{
   printf("Welcome to Individual Result\n");
   char data[30];
   printf("search the name: ");
   fflush(stdin);
   fgets(data,sizeof(data),stdin);
   struct Node *temp=head;
   while(temp->next!=NULL)
   {
      if(strcmp(temp->name, data) == 0)
      {
         printf("Candidate is found.\n");
         printf("Candidate Name is: %s",temp->name);
         printf("\nCandidate Total Vote: %d\n",temp->VoteCus);
         return;
      }
      temp=temp->next;
   }
   //last node check
   if(strcmp(temp->name, data) == 0)
   {
      printf("Candidate is found.\n");
      printf("Candidate Name is: %s.",temp->name);
      printf("\nCandidate Total Vote: %d",temp->VoteCus);
   }
   else
   {
      printf("Candidate is not found.");
   }
}

void winner()
{

   struct Node * temp=head;

   int max=-1;

   while(temp!=NULL){
      if(max<temp->VoteCus){
         max=temp->VoteCus;
      }
      temp=temp->next;
```

```
    }

    temp=head;
    while(temp!=NULL)
    {
        if(temp->VoteCus==max)
        {
            int per=(temp->VoteCus*100)/totalVote;
            printf("==========Congratulations  %s==========\n",temp->name);
            printf("The CR Winner name is: %s",temp->name);
            printf("\nThe Winner Total Vote: %d",temp->VoteCus);
            printf("\nThe Winner percentage vote: %d%c ",per,37);
            printf("Thank you all for the participating.");
            exit(0);
        }
        temp=temp->next;
    }
}

int main()
{

    int choice,target,position;
    char name[30];

    while(1)
    {
mainmenu :
        printf("1. Insert the name of candidates.\n2. Display \n3. Calculating Vote \n0. Exits \n");
        printf("\n**************************************\n");
        printf("Choice option: ");
        scanf("%d",&choice);
        switch (choice)
        {
        case 1:
            printf("Insert candidate Name: ");
            fflush(stdin);
            fgets(name, sizeof(name), stdin);
            while(1)
            {
                printf("1.Insert First.\n2. Insert End: \n3. Insert Any Position \n");
                scanf("%d",&target);
                switch(target)
```

```
            {
            case 1 :
               insertFirst(name);
               goto mainmenu;
               break;

            case 2 :
               insertEnd(name);
               goto mainmenu;
               break;

            case 3 :
               printf("please select the position where you can insert the element\n");
               scanf("%d",&position);
               insertAnyPosition(name,position);
               goto mainmenu;
               break;
            default :
               goto mainmenu;
            }
         }
      case 2 :
         display();
         break;
      case 3 :
         while(1)
         {
secondMenu:
            printf("1 For vote \n2 For view Result \n3 For individual result \n4 For winner \n5 For
main menu\n");
            scanf("%d",&target);
            if(target==1)
            {
               display();
               printf("whom do you want to vote ?: ");
               scanf("%d",&position);
               calculatingVote(position);
               goto secondMenu;
            }
            else if (target==2)
            {
               ResultDisplay();
               goto secondMenu;
```

```
            }
            else if (target==3)
            {
               individualResult();
               goto secondMenu;
            }
            else if (target==4)
            {
               winner();
               goto secondMenu;
            }
            else
            {
               goto mainmenu;
               break;
            }
         }

      case 0 :
         exit(0);
      }
   }

}
```

2.2 Simulation Procedure

- We need to CR who is interested for the vote.
- Inserting
- Display
- Calculating vote

Chapter 3

Performance Evaluation

3.2 Results and Discussions

3.2.1 Results

```
1. Insert the name of candidates.
2. Display
3. Calculating Vote
0. Exits

****************************************
Choice option:
```

```
Choice option: 1
Insert candidate Name: Rani Mia
1.Insert First.
2. Insert End:
3. Insert Any Position
1
```

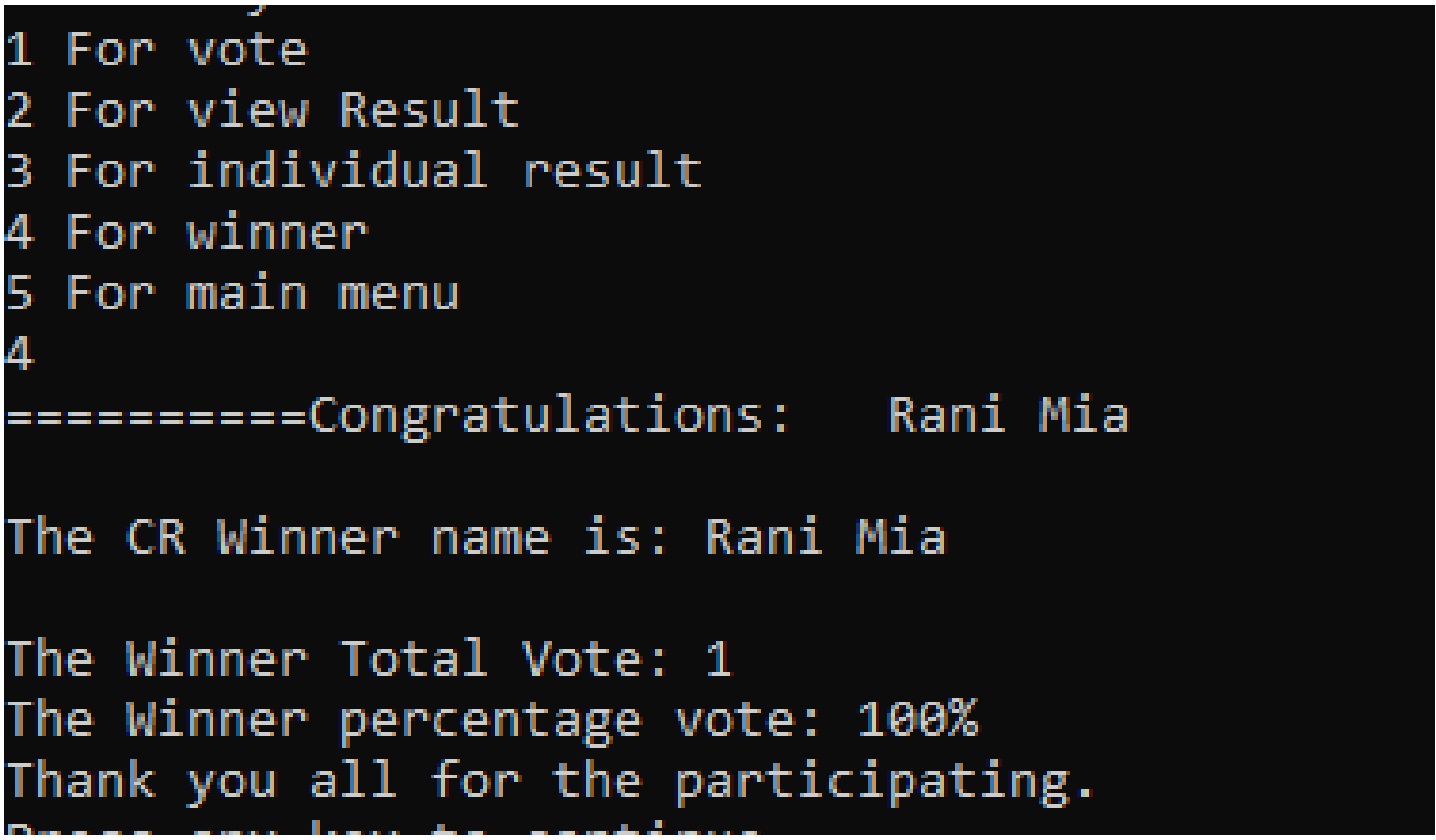
```
Choice option: 1
Insert candidate Name: Rifat
1.Insert First.
2. Insert End:
3. Insert Any Position
2
```

```
Choice option: 1
Insert candidate Name: Tanvi
1.Insert First.
2. Insert End:
3. Insert Any Position
3
please select the position where you can insert the element
3
```

```
1. Insert the name of candidates.
2. Display
3. Calculating Vote
0. Exits

*****************************************
Choice option: 2
*********Welcome to the voting system project*********

                        CR Election

*************************************************************
================    1.Rani Mia

================    2.Rifat

================    3.Tanvi
```

```
1. Insert the name of candidates.
2. Display
3. Calculating Vote
0. Exits

****************************************
Choice option: 3
1 For vote
2 For view Result
3 For individual result
4 For winner
5 For main menu
```

```
1 For vote
2 For view Result
3 For individual result
4 For winner
5 For main menu
1
*********Welcome to the voting system project*********

                      CR Election

*****************************************************
================   1.Rani Mia

================   2.Rifat

================   3.Tanvi


whom do you want to vote ?: 1
```



Future Goal:

I currently complete the project with three features, but I will add more features in the near future. Among the features that may be present in the future are:

- Student Database.
- Teacher Database.
- Library Management.

3.2.2 Conclusion

This project is developed to nurture the needs of students to choose their own favorite person . Future versions of this project will still be much enhanced than the current version. Right now I am also adding insertion, display and calculating votes .AT first A teacher chooses some student who is interested in CR & We can see how many candidates stood up for the voting system. Then every student can vote and when students vote to select her candidate we can see the result of the individual and who is the winner.

References

[1] Website: http://www.w3schools.com

[2] Veneeva, V. (2006), “CR selected with voting system” .

[3] Herbert Schildt- Teach yourself C.