

**COMPUTER SCIENCE
INVESTIGATORY PROJECT**



ACKNOWLEDGEMENT

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Hardware and Software Requirements

- Windows – 7 or higher version
- Enough space on the hard disk for files processing
- Necessary permission to create folder for the logged-in user
- Turbo C++ Compiler (To compile the Source code)

Introduction to the Project

Education is the key to success in life and enlightening young minds is the only way to uplift the society. A society is transformed into a larger, better and stronger one by empowering the children with quality education.

The goal of good and quality higher education is a distant reality of children belonging to poor families. The government provides financial aid to deserving and meritorious students to fulfill their educational dreams through various benefits and scholarship schemes. Still, a lot more students have to be covered to fulfill the dreams.

In addition to the above, well-wishers and philanthropists from the general public are donating to this noble cause so that these children are able to meet the expenses of their college education without any hurdles. And the challenge here is to create awareness among the students seeking financial assistance about the extensive funding opportunities available and also help bridge the donors and the beneficiaries in a smooth manner to help them in career guidance and provide them to mental strength and support when the situation arises.

As a means of bridging the needs of such students and the kind-hearted donors willing to support the needs, we have created the project **ED-FUND**, a platform to connect the deserving groups of students with the donors.

Problem Analysis

“Ed-Fund” aims to manage the list of needy students and the list of sponsors. The application provides a summary view of the overall fund required and the number of likely students to get benefitted. This helps in trying to reach out to more sponsors and help a wider range of students who can be located geographically at different parts of the country.

Header Files Used

Header file	Purpose
fstream.h	: For file read / write operations
conio.h	: Console input / output function
dos.h	: gotoxy() function to display user-friendly screen
process.h	: To exit the program
stdio.h	: gets() - To read string from console
iomanip.h	: setw() to set fixed width for displaying right aligned numeric fields

Data Files Used

Data file	Purpose
FUNDREQ.DAT	: For storing the student requests
SPONSOR.DAT	: For storing Sponsor's details
SUMMARY.DAT	: For storing Summary information

Source Code

```
//*****  
/**  ED-FUND APPLICATION TO REGISTER :  
/**      1. STUDENT FUND NEEDS  
/**      2. SPONSORS DONATING TO SUPPORT THE NEEDS  
//*****  
  
#include<fstream.h>  
#include<conio.h>  
#include<stdio.h>  
#include<dos.h>  
#include<process.h>  
#include <iomanip.h>  
  
//*****  
/**  Declaration of File Names  
//*****  
  
#define summary_file    "SUMMARY.dat"  
#define request_file    "FUNDREQ.dat"  
#define sponsor_file    "SPONSOR.dat"  
#define file_error_msg  "\nERROR!FILE NOT FOUND"  
  
//*****  
/**  Structure to hold date  
//*****  
struct ddmmyyyy {  
    int dd,mm,yyyy;  
};  
  
//*****  
/**  Structure to hold Summary details  
//*****  
struct summary {  
    int    tot_students;  
    int    tot_sponsors;  
    int    tot_req;  
    int    funded_req;  
    int    open_req;  
    float  tot_req_amt;  
    float  tot_funded_amt;  
    float  tot_open_req_amt;  
    float  reserve_amt;  
}s;  
  
//*****  
/**  Class for managing Student Requests  
//*****  
class student {  
    int    id;  
    float  fund_needed;  
    ddmmyyyy req_date;  
    char    req_status;  
  
public:  
  
    char name[20],course[20],phone[11];  
  
    void add();  
    void modify();  
    void list();  
  
    int ret_id() {  
        return (id);  
    }  
    char ret_status() { //Return the value of the Status  
        return (req_status);  
    }  
    float ret_fund_needed() { // Return Fund needed  
        return (fund_needed);  
    }  
    ddmmyyyy ret_req_date(){  
        return (req_date);  
    }  
}
```

```

void change_status(char ch) { //Update Status
    req_status=ch;
}
};

//*****
// Class to manage Sponsor details
//*****
class sponsor {
    int    id;
    float  amount;
    ddmmyyyy fund_date;
    char   fund_status;

public:

    char name[20],phone[11];
    void add();
    void modify();
    void list();
};

//*****
/** CHECK WHETHER GIVEN DATE IS VALID
//*****
int is_valid_date(ddmmyyyy dt){
    int month_days[12]={31,28,31,30,31,30,31,31,30,31,30,31};
    int leap=0;

    if (dt.yyyy %4 != 0) leap = 0; //leap year validation
    else if(dt.yyyy %100 != 0 )leap = 1;
    else if(dt.yyyy %400 == 0 ) leap = 1;

    if(leap == 1) month_days[1] = 29;
    if(dt.yyyy > 0 && (dt.mm >= 1 && dt.mm <= 12) &&
        (dt.dd >=1 && dt.dd <= month_days[dt.mm-1]))
        return 1;
    else return 0;
}

//*****
/** Display new screen with sub_title
//*****
void display_title(char *sub_title){
    clrscr();
    gotoxy(15,2);cout<<"-----";
    gotoxy(18,3);cout<<"ED-FUND  ::  "<<sub_title;
    gotoxy(15,4);cout<<"-----";
}

//*****
/** Loads Summary info to global variable
//*****
void init() {
    ifstream fin;
    fin.open(summary_file,ios::binary|ios::in);
    fin.read((char*)&s,sizeof(s));
    fin.close();
}

//*****
/** Writes record to Summary file
//*****
void write_summary(){
    ofstream fout;
    fout.open(summary_file,ios::binary|ios::out);
    fout.write((char*)&s,sizeof(s));
    fout.close();
}

//*****
/** Available Reserve fund is utilized
/** to allocate to the open requests
//*****
void allocate_fund(){
    fstream file;

```

```

file.open(request_file,ios::in|ios::out|ios::binary);
if(!file){
    cout<<file_error_msg;
    exit(-1);
}
student tmp_st;
while(file){
    file.read((char*)&tmp_st,sizeof(tmp_st));
    if( file.eof()) break;
    if( tmp_st.ret_status()=='O' && s.reserve_amt >= tmp_st.ret_fund_needed()){
        // Open requests with fund_needed < reserve fund
        s.reserve_amt-=tmp_st.ret_fund_needed();
        tmp_st.change_status('F');
        s.open_req--;
        s.funded_req++;
        s.tot_funded_amt+=tmp_st.ret_fund_needed();
        s.tot_open_req_amt-=tmp_st.ret_fund_needed();
        //re-write the record with updated status
        file.seekp((tmp_st.ret_id()-1)*sizeof(tmp_st),ios::beg);
        file.write((char*)&tmp_st,sizeof(tmp_st));
    }
}
file.close();
}
//*****
/** Register a new Student Request
//*****
void student::add(){
    display_title("ADD STUDENT");
    int y=7;
    gotoxy(10, y++);cout<<"ENTER STUDENT NAME           : ";gets(name);
    gotoxy(10, y++);cout<<"ENTER COURSE                : ";gets(course);
    gotoxy(10, y++);cout<<"ENTER PHONE NUMBER          : ";gets(phone);
    gotoxy(10, y++);cout<<"ENTER REQD. AMOUNT            : ";cin>>fund_needed;
    while(fund_needed<=0){
        gotoxy(10, y++);cout<<"ENTER VALID REQD. AMOUNT ( > 0 ) : "; cin>>fund_needed;
    }

    gotoxy(10, y++);cout<<"ENTER REQUEST DATE (DD MM YYYY) : ";
    cin>>req_date.dd>>req_date.mm>>req_date.yyyy;
    while(!is_valid_date(req_date)){
        gotoxy(10, y++);cout<<"ENTER VALID DATE ( DD MM YYYY ) : ";
        cin>>req_date.dd>>req_date.mm>>req_date.yyyy;
    }
    id+=s.tot_students;
    s.tot_req++;
    s.open_req++;
    s.tot_req_amt+=fund_needed;
    s.tot_open_req_amt+=fund_needed;

    if(fund_needed > s.reserve_amt)
        req_status='O';
    else{
        req_status='F';
        s.reserve_amt-=fund_needed;
        s.tot_open_req_amt-=fund_needed;
        s.tot_funded_amt+=fund_needed;
        s.open_req--;
        s.funded_req++;
    }
    ofstream fout;
    fout.open(request_file,ios::binary|ios::app);
    if(!fout){
        cout<<file_error_msg;
        exit(-1);
    }
    fout.write((char*)this,sizeof(student));
    fout.close();
    cout<<"\n          SUCCESSFULLY REGISTERED WITH ID : "<<id;
    cout<<"\n          REQUEST STATUS                : "<<req_status;
}
//*****
/** Modify existing Student Request
//*****
void student::modify(){

```



```

display_title("MODIFY STUDENT");
int y=6;
gotoxy(15,y++);cout<<"Enter ID: "; cin>>id;
fstream file;
file.open(request_file,ios::binary|ios::in|ios::out);
if(!file){
    cout<<file_error_msg;
    exit(-1);
}
student tmp;
file.seekg((id-1)*sizeof(student));
file.read((char*)&tmp,sizeof(tmp));
if(id != tmp.ret_id()) {
    cout<<"ID does not exist! ";
    file.close();
    getch();
    return;
}
gotoxy(6, y++);cout<<"\tEXISTING DETAILS ARE:";
gotoxy(10, y++);cout<<"NAME                : "<<tmp.name;
gotoxy(10, y++);cout<<"COURSE                : "<<tmp.course;
gotoxy(10, y++);cout<<"PHONE NUMBER          : "<<tmp.phone;
gotoxy(10, y++);cout<<"REQUESTED AMOUNT      : "<<tmp.ret_fund_needed();
gotoxy(10, y++);cout<<"REQUEST DATE        : "<<tmp.ret_req_date().dd<<' '
    <<tmp.ret_req_date().mm<<' ' <<tmp.ret_req_date().yyyy;
gotoxy(10, y++);cout<<"REQUEST STATUS      : "<<tmp.ret_status();

if(tmp.ret_status() == 'O') {
    gotoxy(6, y++);cout<<"ENTER NEW DETAILS: \n";
    gotoxy(10, y++);cout<<"NAME                : ";gets(name);
    gotoxy(10, y++);cout<<"COURSE                : ";gets(course);
    gotoxy(10, y++);cout<<"PHONE NUMBER          : ";gets(phone);
    gotoxy(10, y++);cout<<"REQD. AMOUNT ( 0 to Cancel ) : ";cin>>fund_needed;

    while(fund_needed<0){
        gotoxy(10, y++);cout<<"ENTER VALID REQD. AMOUNT ( >= 0 ) : ";
        cin>>fund_needed;
    }

    gotoxy(10, y++);cout<<"REQUEST DATE (DD MM YYYY)      : ";
    cin>>req_date.dd>>req_date.mm>>req_date.yyyy;
    while(!is_valid_date(req_date)){
        gotoxy(10, y++);cout<<"ENTER VALID DATE ( DD MM YYYY ) : ";
        cin>>req_date.dd>>req_date.mm>>req_date.yyyy;
    }
    s.tot_req_amt=s.tot_req_amt-tmp.fund_needed+fund_needed;
    s.tot_open_req_amt=s.tot_open_req_amt-tmp.fund_needed+fund_needed;
    if(fund_needed == 0) {
        tmp.req_status='C';
        s.tot_req--;
        s.open_req--;
    }
    else if(fund_needed > s.reserve_amt)
        tmp.req_status='O';
    else{
        tmp.req_status='F';
        s.reserve_amt-=fund_needed;
        s.tot_open_req_amt-=fund_needed;
        s.tot_funded_amt+=fund_needed;
        s.open_req--;
        s.funded_req++;
    }
    cout<<"\n\n\tSUCCESSFULLY UPDATED WITH STATUS : ";cout<<tmp.req_status;
    req_status=tmp.req_status;
    file.seekp((id-1)*sizeof(student));
    file.write((char*)this,sizeof(student));
}
else {
    cout<<"\n\n\tONLY OPEN REQUESTS CAN BE MODIFIED! ";
}

file.close();
}
/*****
/** List all Student Requests
*****/

```

```

void student::list(){
    student tmp;
    fstream file;
    file.open(request_file,ios::binary|ios::in|ios::out);
    if(!file)
    {
        cout<<file_error_msg;
        exit(-1);
    }
    file.seekg(0);
    int y = 0;

    while(!file.eof() )
    {
        if (y > 23 ) { // Pause for user's view before scorlling
            getch(); y =0; // Reset number of lines printed on the screen to 0
        }
        if (y == 0) { // New page. Write Page header and column labels
            display_title("LIST STUDENTS");
            gotoxy(2,6);cout<<"ID";
            gotoxy(7,6);cout<<"NAME";
            gotoxy(29,6);cout<<"COURSE";
            gotoxy(51,6);cout<<"REQ DATE";
            gotoxy(65,6);cout<<"AMOUNT";
            gotoxy(73,6);cout<<"STATUS";
            gotoxy(1,7);for(int i=0;i<78;i++)cout<<"-";
            y=8;
        }

        file.read((char*)&tmp,sizeof(student));
        if(file.eof()) break;

        gotoxy(2,y);cout<<tmp.id;
        gotoxy(7,y);cout<<tmp.name;
        gotoxy(29,y);cout<<tmp.course;
        gotoxy(51,y);cout<<tmp.req_date.dd<<"-"<<tmp.req_date.mm
            <<"-"<<tmp.req_date.yyyy;
        gotoxy(63,y);cout<<setw(8)<<tmp.fund_needed;
        gotoxy(73,y);cout<<tmp.req_status;
        y++;
    }
    file.close();
}
//*****
//** Add a new sponsor info
//*****
void sponsor::add(){
    display_title("ADD SPONSOR");
    int y=7;
    gotoxy(10,y++);cout<<"ENTER SPONSOR NAME           : ";gets(name);
    gotoxy(10,y++);cout<<"ENTER PHONE NUMBER           : ";gets(phone);
    gotoxy(10,y++);cout<<"ENTER FUNDING AMOUNT ( > 0 )       : ";cin>>amount;
    while(amount<=0){
        gotoxy(10,y++);cout<<"ENTER VALID FUNDING AMOUNT ( > 0 ) : ";
        cin>>amount;
    }

    gotoxy(10,y++);cout<<"ENTER FUNDING DATE (DD MM YYYY)   : ";
    cin>>fund_date.dd>>fund_date.mm>>fund_date.yyyy;
    while(!is_valid_date(fund_date)){
        gotoxy(10,y++);cout<<"ENTER VALID DATE ( DD MM YYYY ) : ";
        cin>>fund_date.dd>>fund_date.mm>>fund_date.yyyy;
    }
    id++s.tot_sponsors;
    s.reserve_amt+=amount;
    fund_status='F';
    allocate_fund();
    ofstream fout;
    fout.open(sponsor_file,ios::binary|ios::app);
    if(!fout){
        cout<<file_error_msg;
        exit(-1);
    }
    fout.write((char*)this,sizeof(sponsor));
    fout.close();
    cout<<"\n\tSUCCESSFULLY REGISTERED WITH ID : "<<id;
    cout<<"\n\tFUNDING STATUS                 : "<<fund_status;
}

```

```

//*****
/** Modify the sponsor info
/** Fund can be canceled only if sufficient reserve fund is available
//*****
void sponsor::modify(){
    display_title("MODIFY SPONSOR");
    int y=6;
    gotoxy(15,y++);cout<<"Enter SPONSOR ID: "; cin>>id;
    fstream file;
    file.open(sponsor_file,ios::binary|ios::in|ios::out);
    if(!file) {
        cout<<file_error_msg;
        exit(-1);
    }
    sponsor tmp;
    file.seekg((id-1)*sizeof(sponsor));
    file.read((char*)&tmp,sizeof(tmp));
    if(id != tmp.id)
        cout<<"ID does not exist! ";
    else{
        gotoxy(6,y++);cout<<"EXISTING DETAILS ARE:"<<endl;
        gotoxy(10,y++);cout<<"NAME           : "<<tmp.name;
        gotoxy(10,y++);cout<<"PHONE NUMBER      : "<<tmp.phone;
        gotoxy(10,y++);cout<<"FUNDED AMOUNT       : "<<tmp.amount;
        gotoxy(10,y++);cout<<"FUNDING DATE        : "<<tmp.fund_date.dd
        <<"-'<<tmp.fund_date.mm<<"-'<<tmp.fund_date.yyyy;
        gotoxy(10,y++);cout<<"FUND STATUS          : "<<tmp.fund_status;
        if (tmp.fund_status != 'F') {
            gotoxy(10,y++);cout<<"CAN MODIFY ONLY IF FUND STATUS = 'F'";
            file.close();
            getch();
            return;
        }
        gotoxy(6,y++);cout<<"NEW DETAILS: ";
        gotoxy(10,y++);cout<<"NAME           : ";gets(name);
        gotoxy(10,y++);cout<<"PHONE NUMBER      : ";gets(phone);
        gotoxy(10,y++);cout<<"FUNDING AMOUNT (0 to Cancel) : ";cin>>amount;
        while(amount<0){
            gotoxy(10,y++);cout<<"ENTER VALID FUNDING AMOUNT ( >= 0 ) : ";
            cin>>amount;
        }

        gotoxy(10,y++);cout<<"FUNDING DATE (DD MM YYYY)      : ";
        cin>>fund_date.dd>>fund_date.mm>>fund_date.yyyy;

        while(!is_valid_date(fund_date)){
            gotoxy(10,y++);cout<<"ENTER VALID DATE ( DD MM YYYY ) : ";
            cin>>fund_date.dd>>fund_date.mm>>fund_date.yyyy;
        }
        if(s.reserve_amt < tmp.amount-amount){
            cout<<"\n\n          ERROR! NOT ENOUGH RESERVE FUND TO MODIFY ";
        }
        else if(amount < 0){
            cout<<"\n\n          ERROR! AMOUNT SHOULD BE >= 0 ";
        }
        else{
            if(amount !=0) {
                s.reserve_amt=s.reserve_amt-tmp.amount+amount;
            }
            else{
                tmp.fund_status='C';
                s.reserve_amt=s.reserve_amt-tmp.amount+amount;
            }
            fund_status=tmp.fund_status;
            file.seekp((id-1)*sizeof(sponsor));
            file.write((char*)this,sizeof(sponsor));

            cout<<"\n\n          SUCCESSFULLY   UPDATED   WITH   STATUS   :
";cout<<tmp.fund_status;
            allocate_fund();
        }
        file.close();
    }
}
//*****

```

```

/** List all Sponsors
/*****
void sponsor::list() {

    sponsor tmp;
    fstream file;
    file.open(sponsor_file, ios::binary|ios::in|ios::out);
    if(!file) {
        cout<<file_error_msg;
        exit(-1);
    }
    file.seekg(0);
    int y=0;
    while(!file.eof() ) {
        if ( y > 23 ) {
            getch();
            y =0;
        }
        if ( y == 0 ) {
            display_title("LIST SPONSORS");
            gotoxy(2,6);cout<<"ID";
            gotoxy(7,6);cout<<"NAME";
            gotoxy(31,6);cout<<"REQ DATE";
            gotoxy(45,6);cout<<"AMOUNT";
            gotoxy(53,6);cout<<"STATUS";
            gotoxy(1,7);for(int i=0;i<78;i++)cout<<"-";
            y = 8;
        }
        file.read((char*)&tmp,sizeof(sponsor));
        if(file.eof()) break;

        gotoxy(2,y);cout<<tmp.id;
        gotoxy(7,y);cout<<tmp.name;
        gotoxy(31,y);cout<<tmp.fund_date.dd<<"-";
            <<tmp.fund_date.mm<<"-";<<tmp.fund_date.yyyy;
        gotoxy(43,y);cout<<setw(8)<<tmp.amount;
        gotoxy(53,y);cout<<tmp.fund_status;
        y++;
    }
    file.close();
}

/*****
/** DISPLAY SUMMARY INFORMATION
/*****
void display_summary() {
    display_title("SUMMARY");
    gotoxy(10, 6);cout<<"TOTAL NUMBER OF REQUESTS (INCL. CANCELED) : "
        <<setw(8)<<s.tot_students;
    gotoxy(10, 7);cout<<"TOTAL NUMBER OF REQUESTS (EXCL. CANCELED) : "
        <<setw(8)<<s.tot_req;
    gotoxy(10, 8);cout<<"TOTAL NUMBER OF FUNDED REQUESTS : "
        <<setw(8)<<s.funded_req;
    gotoxy(10, 9);cout<<"TOTAL NUMBER OF OPEN REQUESTS : "
        <<setw(8)<<s.open_req;
    gotoxy(10, 10);cout<<"TOTAL NUMBER OF SPONSORS : "
        <<setw(8)<<s.tot_sponsors;
    gotoxy(10, 12);cout<<"TOTAL REQUESTED AMOUNT : "
        <<setw(8)<<s.tot_req_amt;
    gotoxy(10, 13);cout<<"TOTAL FUNDED AMOUNT : "
        <<setw(8)<<s.tot_funded_amt;
    gotoxy(10, 14);
    if(s.reserve_amt < s.tot_open_req_amt)
        cout<<"TOTAL AMOUNT NEEDED : "
            <<setw(8)<<s.tot_open_req_amt-s.reserve_amt;
    else
        cout<<"TOTAL AMOUNT NEEDED : "
            <<setw(8)<<"-";
    gotoxy(10,15);cout<<"TOTAL RESERVE AMOUNT : "
        <<setw(8)<<s.reserve_amt;
}

/*****
/** MAIN MENU
/*****

```

```

void main()
{
    char choice;
    char ch;
    student stu;
    sponsor sp;

    cin.setf(ios::dec); // Set input numerical data as decimal
    init();             // Call init() to initialize

    do{
        display_title("MAIN MENU");
        gotoxy(10, 6);cout<<"A. STUDENT DETAILS";
        gotoxy(14, 7);cout<<"1. ADD";
        gotoxy(14, 8);cout<<"2. MODIFY";
        gotoxy(14, 9);cout<<"3. LIST";
        gotoxy(10,10);cout<<"B. SPONSOR DETAILS";
        gotoxy(14,11);cout<<"4. ADD";
        gotoxy(14,12);cout<<"5. MODIFY";
        gotoxy(14,13);cout<<"6. LIST";
        gotoxy(10,14);cout<<"C. GENERIC";
        gotoxy(14,15);cout<<"7. SUMMARY";
        gotoxy(14,16);cout<<"8. EXIT";
        gotoxy(10,18);cout<<"ENTER YOUR CHOICE (between 1 and 8): ";

    enter_choice:

        cin>>choice;

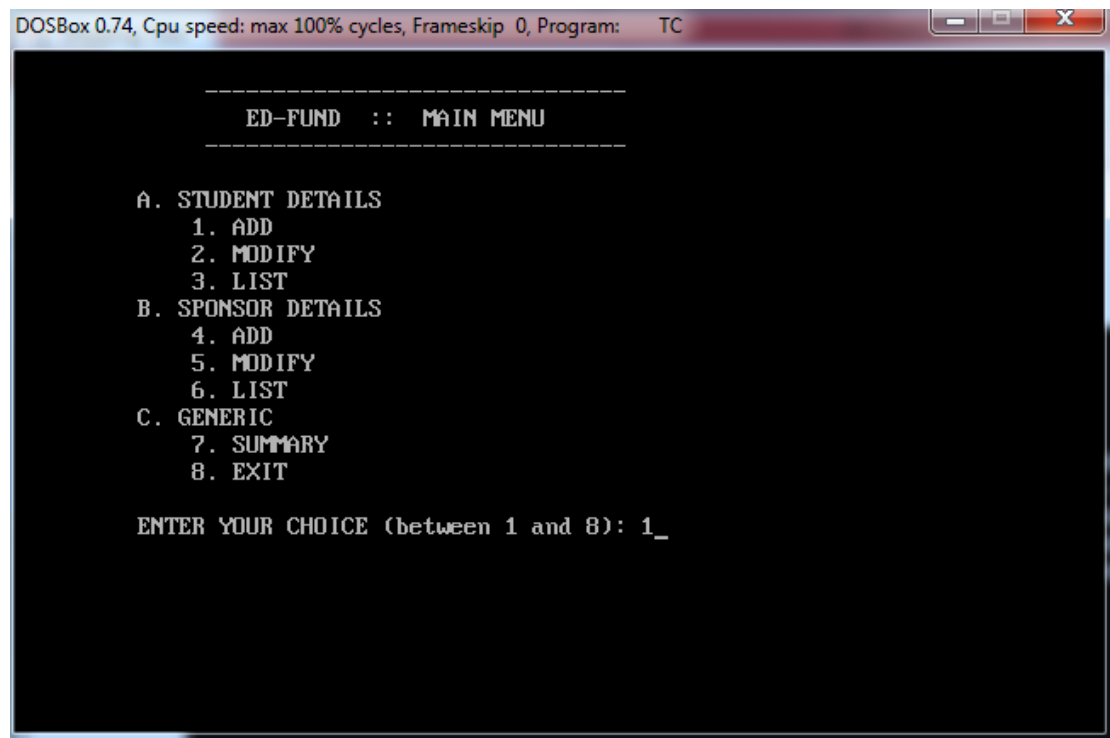
        switch(choice){
            case '1':
                stu.add();
                break;
            case '2':
                stu.modify();
                break;
            case '3':
                stu.list();
                break;
            case '4':
                sp.add();
                break;
            case '5':
                sp.modify();
                break;
            case '6':
                sp.list();
                break;
            case '7':
                display_summary();
                break;
            case '8':
                cout<<"\n ***** ";
                cout<<"\n **                ** ";
                cout<<"\n **      THANK YOU FOR USING ED-FUND APPLICATION  !!      ** ";
                cout<<"\n **                ** ";
                cout<<"\n ***** ";
                getch();
                return;
            default:
                cout<<"Invalid choice. Please enter again :";
                goto enter_choice;
        }
        write_summary();
        cout<<"\n\n DO YOU WANT TO RETURN TO MAIN MENU? (Y/N): ";cin>>ch;
    }while(ch=='Y' || ch=='y');
}

//**** END OF PROGRAM ****

```

Output

MAIN MENU:



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

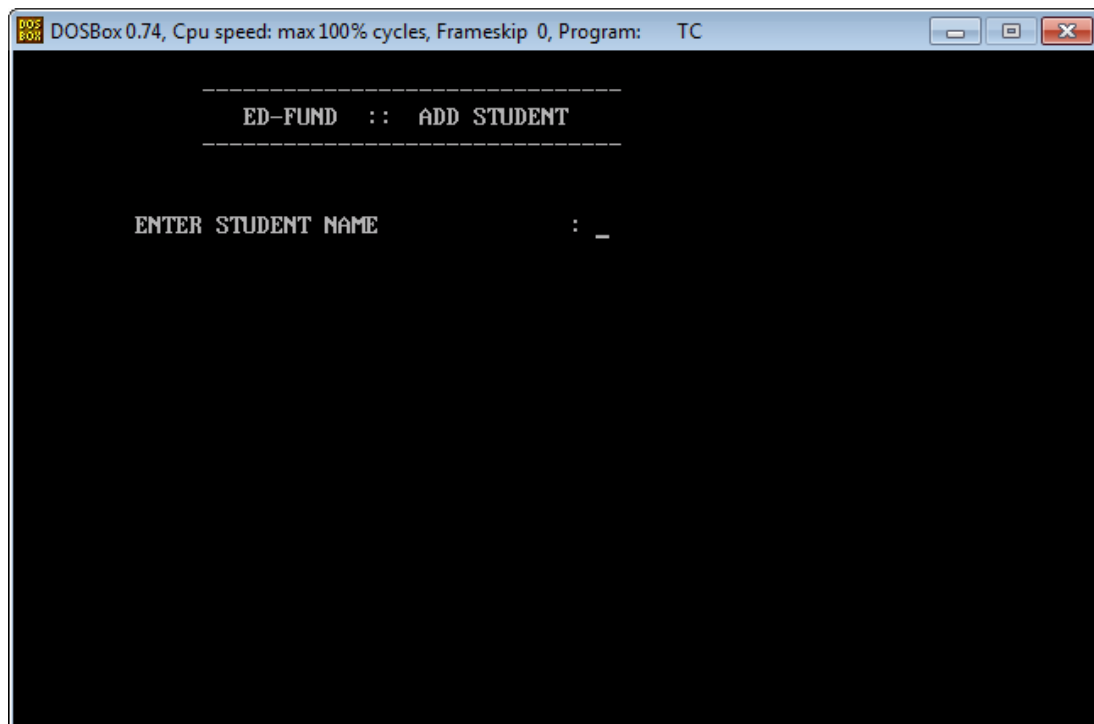
-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 1_
```

ADD STUDENT:

(Option – 1 from Main Menu):



```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  ADD STUDENT
-----

ENTER STUDENT NAME          : _
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  ADD STUDENT
-----

ENTER STUDENT NAME      : PRAVEEN
ENTER COURSE            : B E AERO
ENTER PHONE NUMBER      : 8740223301
ENTER REQD. AMOUNT      : 62000
ENTER REQUEST DATE (DD MM YYYY) : 05 11 2019

SUCCESSFULLY REGISTERED WITH ID : 4
REQUEST STATUS                  : 0

DO YOU WANT TO RETURN TO MAIN MENU? (Y/N):
```

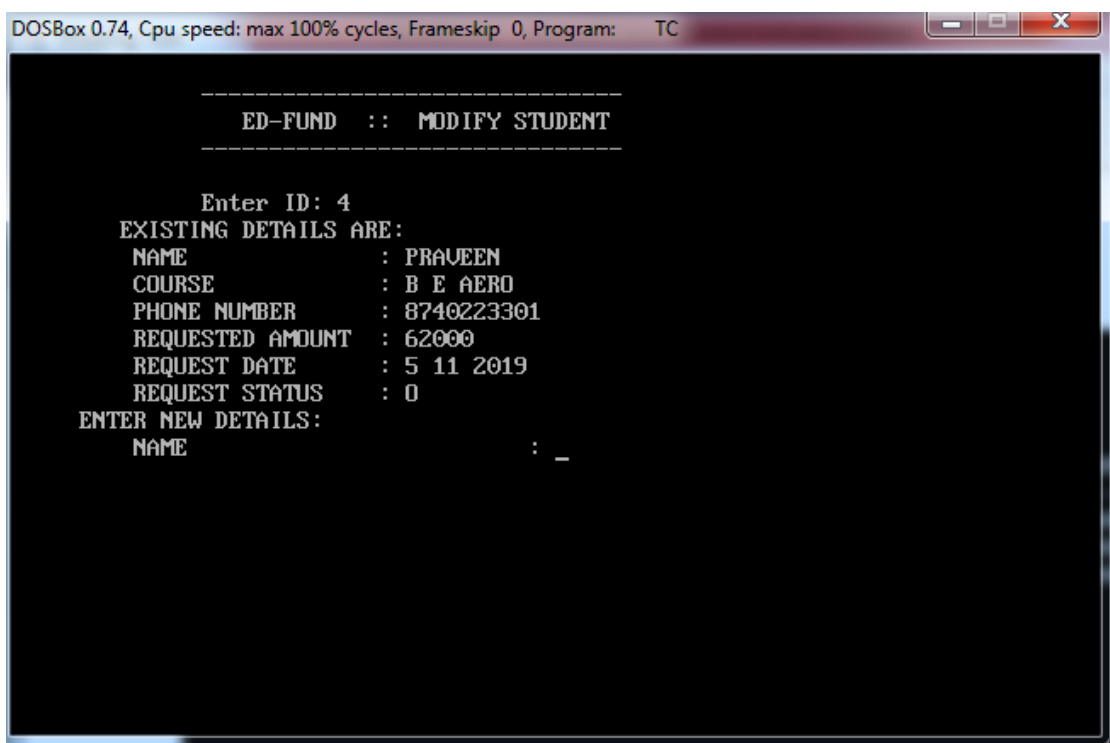
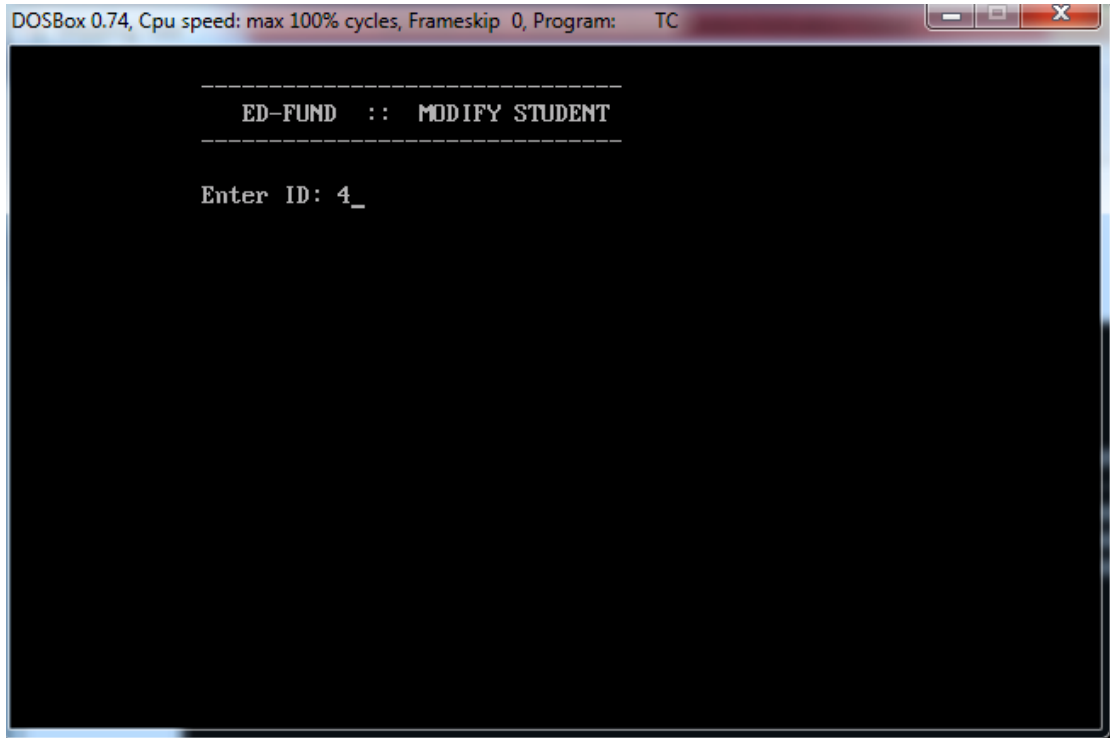
MODIFY STUDENT:
(Option – 2 from Main Menu):

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 2
```




```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MODIFY STUDENT
-----

Enter ID: 4
EXISTING DETAILS ARE:
NAME           : PRAVEEN
COURSE         : B E AERO
PHONE NUMBER   : 8740223301
REQUESTED AMOUNT : 62000
REQUEST DATE   : 5 11 2019
REQUEST STATUS  : 0
ENTER NEW DETAILS:
NAME           : PRAVEEN N
COURSE         : B E (AERO)
PHONE NUMBER   : 87402233001
REQD. AMOUNT ( 0 to Cancel ) : 63000
REQUEST DATE (DD MM YYYY)   : 05 11 2019

SUCCESSFULLY UPDATED WITH STATUS : 0

DO YOU WANT TO RETURN TO MAIN MENU? (Y/N): _
```

LIST STUDENT:

(Option – 3 from Main Menu):

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 3_
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  LIST STUDENTS
-----

ID  NAME                COURSE                REQ DATE    AMOUNT  STATUS
-----
1   SURESH                B COM                1-11-2019   26000   F
2   NANCY                  B ARCH              2-11-2019   36000   F
3   RAJESH                 B E                  3-11-2019   42000   0
4   PRAVEEN N              B E (AERO)           5-11-2019   63000   0

DO YOU WANT TO RETURN TO MAIN MENU? (Y/N):
```

ADD SPONSOR:

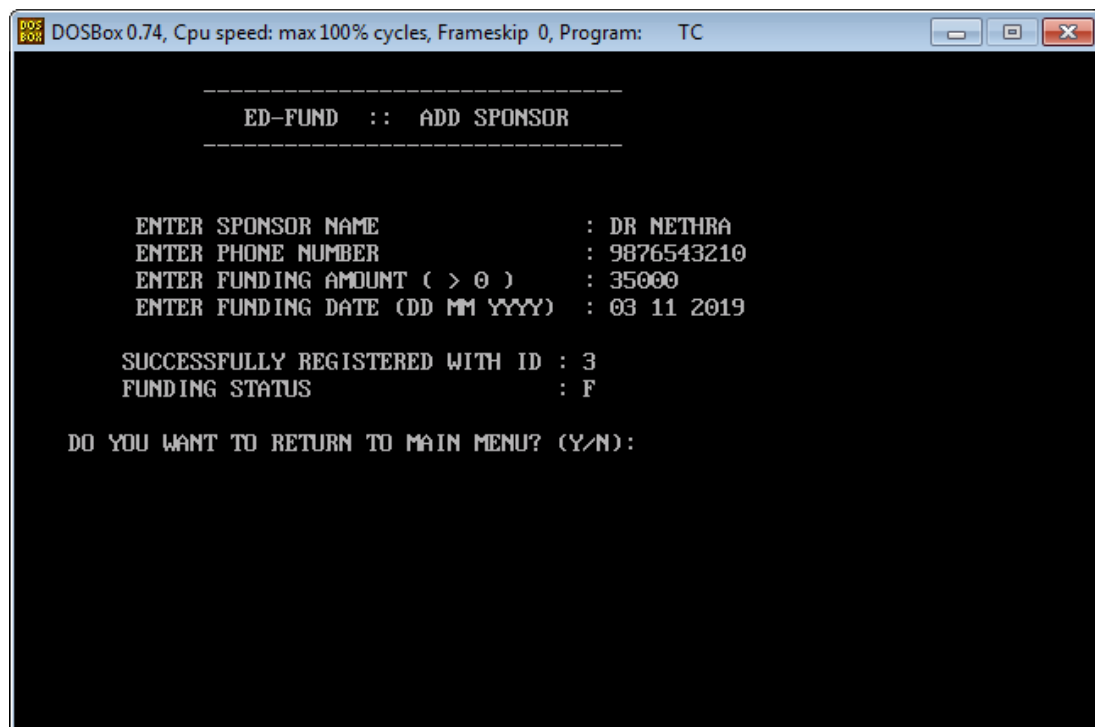
(Option – 4 from Main Menu):

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MAIN MENU
-----

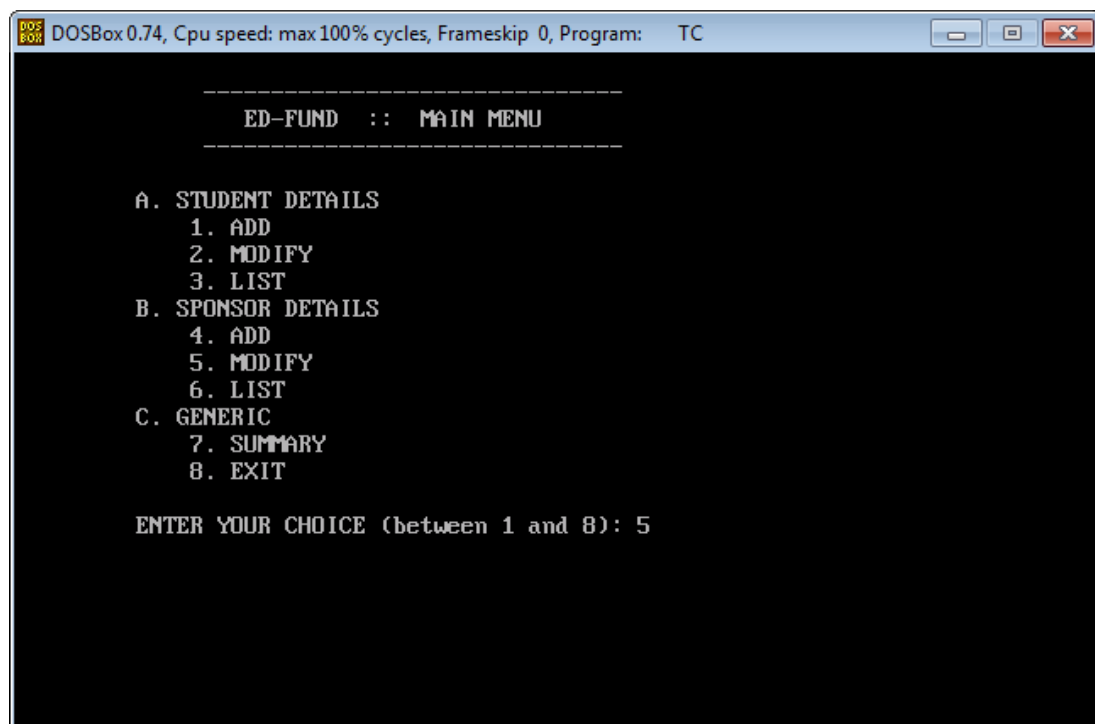
A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

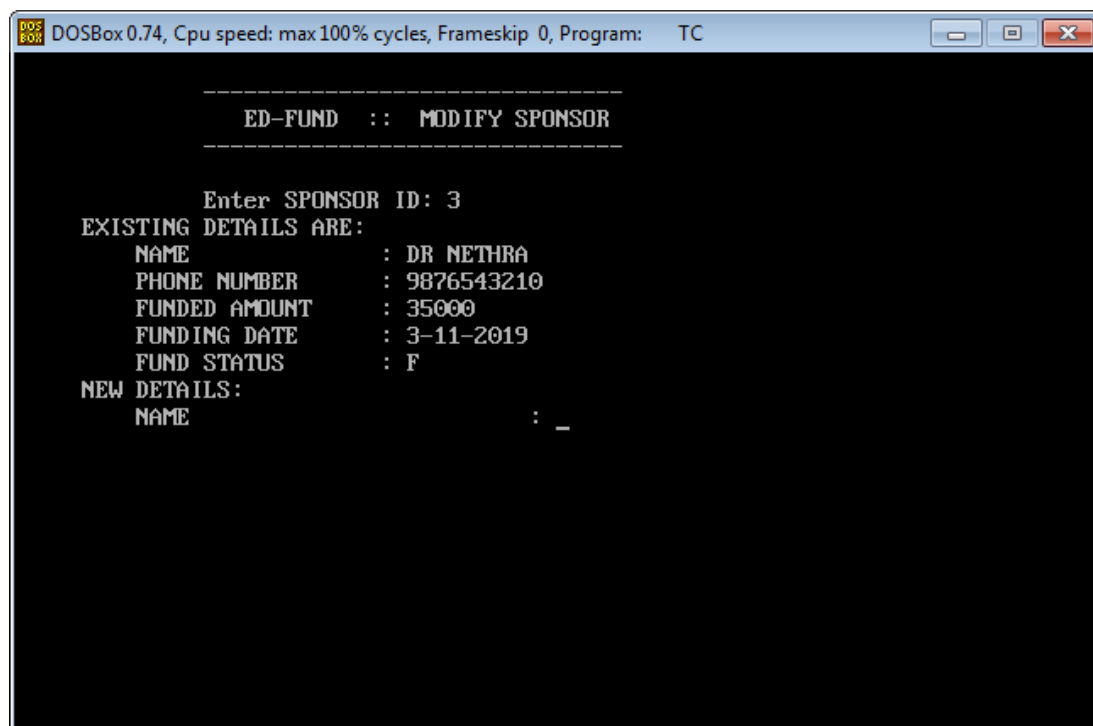
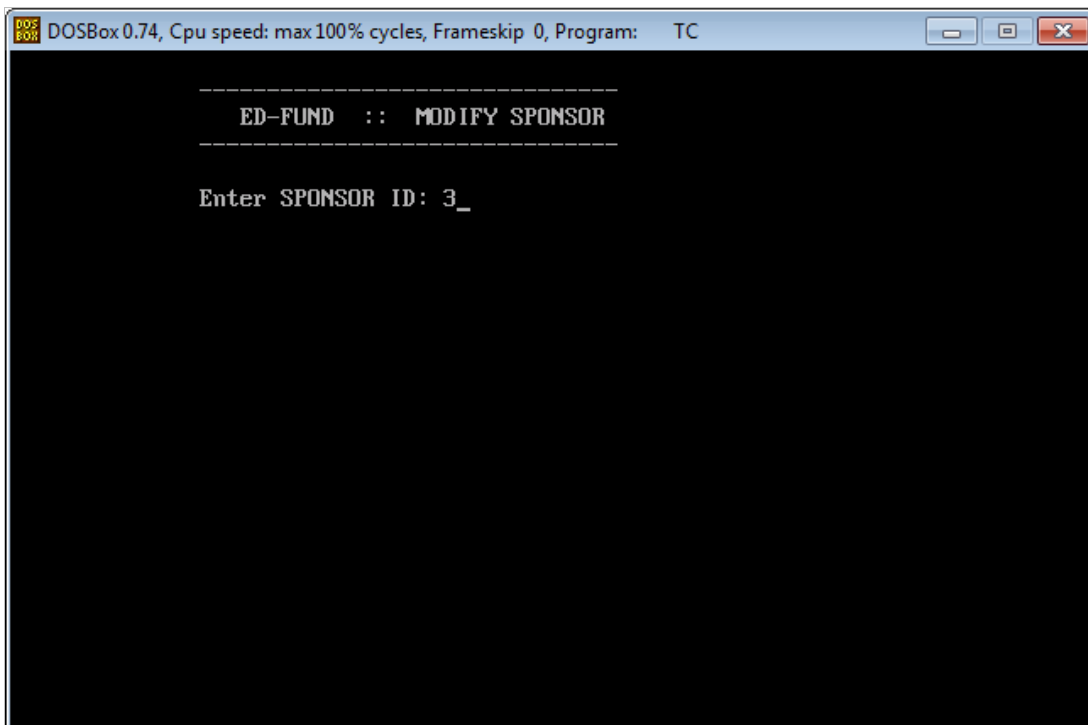
ENTER YOUR CHOICE (between 1 and 8): 4_
```



MODIFY SPONSOR:

(Option – 5 from Main Menu):





```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MODIFY SPONSOR
-----

Enter SPONSOR ID: 3
EXISTING DETAILS ARE:
NAME           : DR NETHRA
PHONE NUMBER   : 9876543210
FUNDED AMOUNT  : 35000
FUNDING DATE   : 3-11-2019
FUND STATUS    : F
NEW DETAILS:
NAME           : DR NETHRA
PHONE NUMBER   : 9876543210
FUNDING AMOUNT (0 to Cancel) : 45000
FUNDING DATE (DD MM YYYY)   : 03 11 2019

SUCCESSFULLY UPDATED WITH STATUS : F

DO YOU WANT TO RETURN TO MAIN MENU? (Y/N):
```

LIST SPONSOR:

(Option – 6 from Main Menu):

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 6_
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  LIST SPONSORS
-----

ID  NAME                REQ DATE    AMOUNT  STATUS
-----
1   EDU AID SOCIETY      1-11-2019   50000   F
2   RAO                  1-11-2019   25000   F
3   DR NETHRA            3-11-2019   45000   F

DO YOU WANT TO RETURN TO MAIN MENU? (Y/N):
```

SUMMARY:

(Option – 7 from Main Menu):

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 7
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  SUMMARY
-----

TOTAL NUMBER OF REQUESTS (INCL. CANCELED) :      5
TOTAL NUMBER OF REQUESTS (EXCL. CANCELED) :      4
TOTAL NUMBER OF FUNDED REQUESTS           :      4
TOTAL NUMBER OF OPEN REQUESTS             :      0
TOTAL NUMBER OF SPONSORS                  :      3

TOTAL REQUESTED AMOUNT                    :    102000
TOTAL FUNDED AMOUNT                       :    102000
TOTAL AMOUNT NEEDED                       :      -
TOTAL RESERVE AMOUNT                      :     18000

DO YOU WANT TO RETURN TO MAIN MENU? (Y/N): _
```

EXIT:
(Option – 8 from Main Menu):

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC

-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 8_
```

```
DOSBox 0.74, Cpu speed: max 100% cycles, Frameskip 0, Program: TC
-----
ED-FUND  ::  MAIN MENU
-----

A. STUDENT DETAILS
  1. ADD
  2. MODIFY
  3. LIST
B. SPONSOR DETAILS
  4. ADD
  5. MODIFY
  6. LIST
C. GENERIC
  7. SUMMARY
  8. EXIT

ENTER YOUR CHOICE (between 1 and 8): 8

*****
**                                     **
**  THANK YOU FOR USING ED-FUND APPLICATION  ??  **
**                                     **
*****
```


Limitations and Recommended Enhancements

Attempt has been made to create the user inputs for capturing and storing the student requests and sponsor information. This project has lots of scope for improvement.

- A database based application would help to make search function easier
- Allow each student to create a profile page depicting the credentials, achievements, goals and progress made thus far.
- Mobile based application would help to reach out to more students and more sponsors.
- Verification mechanisms to validate phone number would improve the credibility of the application.
- Additional features like online transfer of funds to the individual accounts or educational institutes for ease of administration
- Allow sponsors (donors) and students for self-registration
- Enhanced search and reporting mechanism to connect the sponsors with the benefitted students.

Conclusion

The project has helped us to understand programming based on real-life situations. Also, during the project execution, we learnt more about debugging, structuring and the presentation of screens.

Bibliography

<https://www.tutorialspoint.com/History-of-Cplusplus-language>

<https://www.includehelp.com/cpp-tutorial>

COMPUTER SCIENCE IN C++ : BY SUMITA ARORA