COMPUTER SCIENCE PROJECT

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CONTENTS

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AIM

To create a program for e-banking program in C++ using data file handling concepts.

SOFTWARE AND HARDWARE SPECIFICATIONS

SOFTWARE:

BASIC REQUIREMENTS: TURBO c++

HARDWARE:

Cd rom Speed : 52 x

Processor: Pentium 4

Hard disk capacity: 20gb

Memory: 512 mb ram

Aim

Explain in brief about project

HEADER FILES

1.#include<fstream.h> - for file handling, cin and cout.

2.#include<string.h> - for string handling

3.#include<ctype.h> - for character handling

4.#include<iomanip.h> - for parametric manipulators

5.#include<stdio.h> - for standard I/O operations

6.#include<math.h> - for mathematical operations

7.#include<conio.h> - for clrscr() and getch() functions

BRIEF EXPLANATION

1-To search based on type in the bank. – search_type()

2-To display the details of your account.-display()

3-To search based on account number.- open_choice

4-To append an account by adding new records.- append()

5-To deposit amount in your account.-deposit()

6-To withdraw amount from your account.- withdraw()

7-To take a loan from the bank.-loan()

SOURCE CODE

```cpp
#include<conio.h>
#include<fstream.h>
#include<string.h>
#include<ctype.h>
#include<iomanip.h>
#include<stdio.h>
#include<math.h>

class account
{
 int acno;
 char name[50];
 int deposit;
 char type[3];

 public:
   void create_account();
   void show_account();
   void f_deposit(int acno);
```

```cpp
  void draw(int acno);
  int return_acno();
  int return_deposit();
  char* return_type();
};

void account::create_account()
{
  cout<<"\n Enter the account number:";
  cin>>acno;
  cout<<"Enter the name of the account holder: ";
  gets(name);
  cout<<"Enter the type of the account (C/S/FD): ";
  gets(type);
  cout<<"Enter the initial amout of deposit: ";
  cin>>deposit;
  cout<<"YOUR ACCOUNT HAS BEEN
CREATED."<<"\n";
}

void account::show_account()
```

```
{
 cout<<"\n Account Number: "<<acno;
 cout<<"\n Name of the Account Holder: ";
 cout<<name;
 cout<<"\n Type of Account: "<<type;
 cout<<"\n Balance Account: "<<deposit;
}

void account::f_deposit(int y)
 {
   deposit=deposit+y;
 }
void account::draw(int y)
 {
   deposit=deposit-y;
 }
int account::return_acno()
 {
   return acno;
 }
int account::return_deposit()
```

```cpp
 {
    return deposit;
 }
char* account::return_type()
 {
    return type;
 }

void Intro()
 {
    cout<<"WELCOME TO BYTES BANK."<<endl;
 }

//create a new file

void create()
{
 int i,n;
 account a;
 ofstream fout;
 cout<<"How many records you want?";
```

```cpp
cin>>n;
fout.open("bank.dat",ios::out|ios::binary);

for(i=0;i<n;i++)
{
 a.create_account();
 fout.write((char*)&a,sizeof(a));
}
fout.close();
}

//read file

void display()
{
 account a;
 ifstream fin;
 fin.open("bank.dat",ios::in|ios::binary);
 fin.seekg(0);
 while(fin.read((char*)&a,sizeof(a)))
 {
```

```cpp
  a.show_account();
 }
fin.close();
}

//search based on account type
void search_type()
{
 account a;
 char choice_type[3],flag=0;
 ifstream fin;
 fin.open("bank.dat",ios::in|ios::binary);
 cout<<"Enter account number of your choice: ";
 cin>>choice_type;
 while(fin.read((char*)&a,sizeof(a)))
 {
  if(strcmpi(a.return_type(),choice_type)==0)
   {
    a.show_account();
    flag=1;
   }
```

```cpp
 }
 fin.close();
 if (flag==0)
 {
  cout<<"Sorry! Account not found! Please check
again!";
 }
}

//search based on account number

void open_choice()
{
 account a;
 int choice_acno,flag=0;
 ifstream fin;
 fin.open("bank.dat",ios::in|ios::binary);
 cout<<"Enter TYPE of your choice: ";
 cin>>choice_acno;
 while(fin.read((char*)&a,sizeof(a)))
 {
```

```cpp
  if(a.return_acno()==choice_acno)
   {
    a.show_account();
    flag=1;
   }
 }
 fin.close();
 if (flag==0)
 {
   cout<<"Sorry! Account not found! Please check
again!";
 }
 }
//to append by adding new records

void append()
{
 int i,n;
 account a;
 ofstream fout;
 cout<<"How many accounts you want to add?";
```

```cpp
cin>>n;
fout. open("bank.dat",ios::ate|ios::binary);

for(i=0;i<n;i++)
{
 a.create_account();
 fout.write((char*)&a,sizeof(a));
}
fout.close();
}

void deposit()
{
 account a ;
 int accnum;
 int depamount;
 int flag=0;
 fstream f;
 f.open("bank.dat",ios::out|ios::in|ios::binary);
 f.seekg(0);
 cout<<"Enter account number: ";
```

```cpp
cin>>accnum;
while(f.read((char*)&a,sizeof(a)))
 {
   if(accnum==a.return_acno())
    {
     flag=1;
     cout<<"Enter the amount to be deposited: ";
     cin>>depamount;
     a.f_deposit(depamount);
     f.seekp(f.tellg()-sizeof(a),ios::cur);
     f.write((char*)&a,sizeof(a));
    }
 }
  if (flag==0)
 {  cout<<"ERROR! ACCOUNT NOT FOUND.";}
 a.show_account();
f.close();
}

void withdraw()
{
```

```cpp
account a;
int accnum;
int wamount;
int flag=0;
fstream f;
f.open("bank.dat",ios::in|ios::out|ios::binary);
f.seekg(0);
cout<<"Enter the Account Number: ";
cin>>accnum;
while(f.read((char*)&a,sizeof(a)))
{
 if(accnum==a.return_acno())
  {flag=1;
   cout<<"Enter the amount to be withdrawn: ";
   cin>>wamount;
   if(strcmpi(a.return_type(),"s")==0)
    {
     cout<<"Sorry! Cannot withdraw from savings amount.";
    }
   else if((a.return_deposit()-wamount)<10)
```

```cpp
     {
cout<<"Sorry! Enough money not available in your
account.";}
  else
   {
    a.draw(wamount);
    f.seekp(f.tellg()-sizeof(a));
    f.write((char*)&a,sizeof(a));
    flag=1;
    a.show_account();
   }
  }
 }
if (flag==0)
 cout<<"Error! Account not found!";
f.close();
}

float calculate(int P,int T)
{
 float tot=P*pow(1.15,T-1);
```

```cpp
 return tot;
}

void loan()
{
 account a;
 char choice;
 int accnum,lamount,years;
 fstream f;
 f.open("bank.dat",ios::in|ios::out|ios::binary);
 f.seekg(0);
 cout<<"Enter your Account Number: ";
 cin>>accnum;
 while(f.read((char*)&a,sizeof(a)))
 {
  if(accnum==a.return_acno())
   {
    f.seekp(f.tellg()-sizeof(a));
    cout<<"Enter the amount you want a loan: ";
    cin>>lamount;
```

```cpp
    cout<<"\n Enter tentative number of years after
which you will be able to pay back the loan: ";
    cin>>years;
    cout<<"\n The interest rate is 15% compounded
annually.";
    cout<<"\n Amount to be paid after the said time:
"<<calculate(lamount,years);
    cout<<"\n Do you agree to this?(Y\N)";
    cin>>choice;
      if(choice=='Y'||choice=='y')
      {
      a.f_deposit(lamount);
      f.write((char*)&a,sizeof(a));
      cout<<"The money has been deposited to your
account.";
      }
     else
     {
     cout<<"Error! Account not found!";
     }
  }
```

```cpp
  }
f.close();
}

void main()
{
 clrscr();
 Intro();
 create();
 int ch;
 char choice;

 do
 {
  cout<<"\n MENU: ";
  cout<<"Enter 1-To search based on type in the
bank."<<"\n";
  cout<<"Enter 2-To display the details of your
account."<<"\n";
  cout<<"Enter 3-To search based on account
number."<<"\n";
```

```cpp
  cout<<"Enter 4-To append an account by adding new records."<<"\n";
  cout<<"Enter 5-To deposit amount in your account."<<"\n";
  cout<<"Enter 6-To withdraw amount from your account."<<"\n";
  cout<<"Enter 7-To take a loan from the bank."<<"\n";
  cout<<"Enter Choice: ";
  cin>>ch;
  switch(ch)
  {
   case 1:search_type();
        break;
   case 2:display();
        break;
   case 3:open_choice();
        break;
   case 4:append();
        break;
```

```cpp
        case 5:deposit();
            break;
        case 6:withdraw();
            break;
        case 7:loan();
            break;
        default: cout<<"Sorry! Please enter correct choice.";
    }
    cout<<"\n Do you want to continue?(Y/N)"<<"\n";
    cin>>choice;
}while(choice=='y'||choice=='Y');
cout<<"******THANK YOU!******";
getch();
}
```

SAMPLE OUTPUT

```
 MENU: Enter 1-To search based on type in the bank.
Enter 2-To display the details of your account.
Enter 3-To search based on account number.
Enter 4-To append an account by adding new records.
Enter 5-To deposit amount in your account.
Enter 6-To withdraw amount from your account.
Enter 7-To take a loan from the bank.
Enter Choice: 7
Enter your Account Number: 123
Enter the amount you want a loan: 1340

 Enter tentative number of years after which you will be able to pay back the
an: 3

 The interest rate is 15% compounded annually.
 Amount to be paid after the said time: 1772.150024
 Do you agree to this?(YN)Y
The money has been deposited to your account.
 Do you want to continue?(Y/N)
N
******THANK YOU!******
```

```
    WELCOME TO BYTES BANK.

     MENU: Enter 1-To search based on type in the bank.
    Enter 2-To display the details of your account.
    Enter 3-To search based on account number.
    Enter 4-To append an account by adding new records.
    Enter 5-To deposit amount in your account.
    Enter 6-To withdraw amount from your account.
    Enter 7-To take a loan from the bank.
    Enter Choice: 1
    Enter account type of your choice: s

     Account Number: 456
     Name of the Account Holder: MEENA
     Type of Account: S
     Balance Account: 3000
     Do you want to continue?(Y/N)
     n
    ******THANK YOU!******_
```

```
        WELCOME TO BYTES BANK.

         MENU: Enter 1-To search based on type in the bank.
        Enter 2-To display the details of your account.
        Enter 3-To search based on account number.
        Enter 4-To append an account by adding new records.
        Enter 5-To deposit amount in your account.
        Enter 6-To withdraw amount from your account.
        Enter 7-To take a loan from the bank.
        Enter Choice: 3
        Enter account number of your choice: 123

         Account Number: 123
         Name of the Account Holder: SAM
         Type of Account: c
         Balance Account: 2540
         Do you want to continue?(Y/N)
        n
        *******THANK YOU!*******_
```

```
WELCOME TO BYTES BANK.

 MENU: Enter 1-To search based on type in the bank.
Enter 2-To display the details of your account.
Enter 3-To search based on account number.
Enter 4-To append an account by adding new records.
Enter 5-To deposit amount in your account.
Enter 6-To withdraw amount from your account.
Enter 7-To take a loan from the bank.
Enter Choice: 4
How many accounts you want to add?1

 Enter the account number:789
Enter the name of the account holder: Akshaya
Enter the type of the account (C/S/FD): FD
Enter the initial amout of deposit: 5000
YOUR ACCOUNT HAS BEEN CREATED.

 Do you want to continue?(Y/N)
N
*******THANK YOU!*******
```

```
Enter 4-To append an account by adding new records.
Enter 5-To deposit amount in your account.
Enter 6-To withdraw amount from your account.
Enter 7-To take a loan from the bank.
Enter Choice: 2

Account Number: 123
Name of the Account Holder: SAM
Type of Account: C
Balance Account: 1200
Account Number: 456
Name of the Account Holder: MEENA
Type of Account: S
Balance Account: 3000
Account Number: 789
Name of the Account Holder: AKSHAYA
Type of Account: FD
Balance Account: 5000
Do you want to continue?(Y/N)
N
******THANK YOU!******_
```

```
WELCOME TO BYTES BANK.

 MENU: Enter 1-To search based on type in the bank.
Enter 2-To display the details of your account.
Enter 3-To search based on account number.
Enter 4-To append an account by adding new records.
Enter 5-To deposit amount in your account.
Enter 6-To withdraw amount from your account.
Enter 7-To take a loan from the bank.
Enter Choice: 5
Enter account number: 123
Enter the amount to be deposited: 100

 Account Number: 123
 Name of the Account Holder: SAM
 Type of Account: C
 Balance Account: 1300
 Do you want to continue?(Y/N)
 N
 ******THANK YOU!******_
```

CONCLUSION

Program executed successfully!