the concepts covered and the techniques used in the lesson covering the Bank Management system.

PROGRAM:

```
#include<stdio.h>
#include<stdlib.h>
#include<windows.h>
#include <stdbool.h>
int i,j;
int main_exit;
void menu();
int atm();
void close();
struct date{
  int month,day,year;
  };
struct {
  char name[60];
  int acc_no,age;
  char address[60];
  char citizenship[15];
  double phone;
  char acc_type[10];
  float amt;
```

```
struct date dob;
  struct date deposit;
  struct date withdraw;
  }add,upd,check,rem,transaction;
float interest(float t,float amount,int rate)
{
  float SI;
  SI=(rate*t*amount)/100.0;
  return (SI);
}
void fordelay(int j)
{ int i,k;
  for(i=0;i<j;i++)
     k=i;
}
void new_acc()
  int choice;
  FILE *ptr;
```

```
ptr=fopen("record.dat","a+");
  account no:
  system("cls");
  printf("\t\t==== ADD RECORD ====");
  printf("\n\nEnter today's date(mm/dd/yyyy):");
  scanf("%d/%d/%d",&add.deposit.month,&add.deposit.day,&add.deposit.year);
  printf("\nEnter the account number:");
  scanf("%d",&check.acc_no);
  while(fscanf(ptr,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/\d\n",&add.acc_no,add.name,&add.dob.month,&add.dob.day,&add.dob.year,&add.age,
add.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depo
sit.day,&add.deposit.year)!=EOF)
  {
    if (check.acc no==add.acc no)
       {printf("Account no. already in use!");
      fordelay(100000000);
         goto account_no;
       }
  }
  add.acc_no=check.acc_no;
    printf("\nEnter the name:");
  scanf("%s",add.name);
  printf("\nEnter the date of birth(mm/dd/yyyy):");
  scanf("%d/%d/%d",&add.dob.month,&add.dob.day,&add.dob.year);
  printf("\nEnter the age:");
```

```
scanf("%d",&add.age);
  printf("\nEnter the address:");
  scanf("%s",add.address);
  printf("\nEnter the citizenship number:");
  scanf("%s",add.citizenship);
  printf("\nEnter the phone number: ");
  scanf("%lf",&add.phone);
  printf("\nEnter the amount to deposit:$");
  scanf("%f",&add.amt);
  printf("\nType of account:\n\t#Saving\n\t#Current\n\t#Fixed1(for 1 year)\n\t#Fixed2(for 2
years)\n\t#Fixed3(for 3 years)\n\n\tEnter your choice:");
  scanf("%s",add.acc_type);
    fprintf(ptr,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/%d/n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
  fclose(ptr);
  printf("\nAccount created successfully!");
  add_invalid:
  printf("\n\n\t\tenter 1 to go to the main menu and 0 to exit:");
  scanf("%d",&main_exit);
  system("cls");
  if (main_exit==1)
    menu();
```

```
else if(main_exit==0)
                              close();
          else
                             printf("\nInvalid!\a");
                              goto add_invalid;
 }
void view_list()
          FILE *view;
          view=fopen("record.dat","r");
          int test=0;
          system("cls");
          printf("\nACC. NO.\tNAME\t\t\tADDRESS\t\t\tPHONE\n");
          while(fscanf(view,"%d %s %d/%d/%d %d %s %s %lf %s %f
\%d/\%d/\%d'', \& add.acc\_no, add.name, \& add.dob.month, \& add.dob.day, \& add.dob.year, \& add.age, add.a
dd.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depos
it.day,&add.deposit.year)!=EOF)
                            printf("\n\% 6d\t\% 10s\t\t\% 10s\t\t\%.01f",add.acc\_no,add.name,add.address,add.phone);
                            test++;
                   }
          fclose(view);
```

```
if (test==0)
     { system("cls");
       printf("\nNO RECORDS!!\n");}
  view_list_invalid:
  printf("\n\nEnter 1 to go to the main menu and 0 to exit:");
    scanf("%d",&main_exit);
    system("cls");
    if (main_exit==1)
       menu();
    else if(main_exit==0)
       close();
    else
       printf("\nInvalid!\a");
       goto view_list_invalid;
     }
void edit(void)
  int choice,test=0;
  FILE *old,*newrec;
  old=fopen("record.dat","r");
  newrec=fopen("new.dat","w");
```

}

{

```
printf("\nEnter the account no. of the customer whose info you want to change:");
  scanf("%d",&upd.acc_no);
  while(fscanf(old,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/%d",&add.acc_no,add.name,&add.dob.month,&add.dob.day,&add.dob.year,&add.age,a
dd.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depos
it.day,&add.deposit.year)!=EOF)
  {
    if (add.acc_no==upd.acc_no)
    \{ test=1;
       printf("\nWhich information do you want to change?\n1.Address\n2.Phone\n\nEnter your
choice(1 for address and 2 for phone):");
       scanf("%d",&choice);
       system("cls");
      if(choice==1)
         {printf("Enter the new address:");
         scanf("%s",upd.address);
         fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,upd.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
         system("cls");
         printf("Changes saved!");
         }
       else if(choice==2)
         {
           printf("Enter the new phone number:");
         scanf("%lf",&upd.phone);
```

```
fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,upd.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
         system("cls");
         printf("Changes saved!");
    else
      fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/%d/n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
  }
  fclose(old);
  fclose(newrec);
  remove("record.dat");
  rename("new.dat","record.dat");
if(test!=1)
    { system("cls");
       printf("\nRecord not found!!\a\a\a");
       edit_invalid:
        printf("\nEnter 0 to try again,1 to return to main menu and 2 to exit:");
        scanf("%d",&main_exit);
        system("cls");
```

```
if (main_exit==1)
            menu();
         else if (main_exit==2)
            close();
         else if(main_exit==0)
            edit();
         else
            {printf("\nInvalid!\a");
            goto edit_invalid;}
     }
  else
    {printf("\n n in Enter 1 to go to the main menu and 0 to exit:");
    scanf("%d",&main_exit);
    system("cls");
    if (main_exit==1)
       menu();
    else
       close();
     }
void transact(void)
{ int choice,test=0;
  FILE *old,*newrec;
```

}

```
old=fopen("record.dat","r");
  newrec=fopen("new.dat","w");
    printf("Enter the account no. of the customer:");
  scanf("%d",&transaction.acc_no);
  while (fscanf(old,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/%d",&add.acc_no,add.name,&add.dob.month,&add.dob.day,&add.dob.year,&add.age,a
dd.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depos
it.day,&add.deposit.year)!=EOF)
  {
      if(add.acc_no==transaction.acc_no)
       \{ test=1;
if(strcmpi(add.acc_type, "fixed1")==0||strcmpi(add.acc_type, "fixed2")==0||strcmpi(add.acc_type,
"fixed3")==0)
         {
           printf("\a\a\n\nYOU CANNOT DEPOSIT OR WITHDRAW CASH IN FIXED
ACCOUNTS!!!!!");
           fordelay(1000000000);
           system("cls");
           menu();
         }
         printf("\n\nDo you want to\n1.Deposit\n2.Withdraw?\n\nEnter your choice(1 for
deposit and 2 for withdraw):");
         scanf("%d",&choice);
         if (choice==1)
```

```
{
           printf("Enter the amount you want to deposit:$ ");
           scanf("%f",&transaction.amt);
           add.amt+=transaction.amt;
           fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/\n",add.acc no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
           printf("\n\nDeposited successfully!");
         }
         else
           printf("Enter the amount you want to withdraw:$");
           scanf("%f",&transaction.amt);
           add.amt=transaction.amt;
           fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/\d\n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
           printf("\n\nWithdrawn successfully!");
         }
       }
       else
        fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/\d\n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
```

```
it.year);
       }
 fclose(old);
 fclose(newrec);
 remove("record.dat");
 rename("new.dat","record.dat");
 if(test!=1)
  {
    printf("\n\nRecord not found!!");
    transact_invalid:
   printf("\n\n\nEnter 0 to try again,1 to return to main menu and 2 to exit:");
   scanf("%d",&main_exit);
   system("cls");
   if (main_exit==0)
     transact();
  else if (main_exit==1)
     menu();
  else if (main_exit==2)
     close();
  else
     printf("\nInvalid!");
     goto transact_invalid;
```

```
}
          }
        else
          {
                    printf("\nEnter 1 to go to the main menu and 0 to exit:");
                       scanf("%d",&main_exit);
                       system("cls");
                       if (main_exit==1)
                                    menu();
                        else
                                   close();
          }
 }
void erase(void)
{
           FILE *old,*newrec;
            int test=0;
           old=fopen("record.dat","r");
           newrec=fopen("new.dat","w");
           printf("Enter the account no. of the customer you want to delete:");
           scanf("%d",&rem.acc_no);
            while (fscanf(old,"%d %s %d/%d/%d %d %s %s %lf %s %f
\%d/\%d/\%d'', \& add.acc\_no, add.name, \& add.dob.month, \& add.dob.day, \& add.dob.year, \& add.age, add.a
```

```
dd.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depos
it.day,&add.deposit.year)!=EOF)
    if(add.acc_no!=rem.acc_no)
       fprintf(newrec,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/n",add.acc_no,add.name,add.dob.month,add.dob.day,add.dob.year,add.age,add.addre
ss,add.citizenship,add.phone,add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.depos
it.year);
    else
       {test++;
       printf("\nRecord deleted successfully!\n");
       }
 }
 fclose(old);
 fclose(newrec);
 remove("record.dat");
 rename("new.dat","record.dat");
 if(test==0)
    {
       printf("\nRecord not found!!\a\a\a");
       erase_invalid:
        printf("\nEnter 0 to try again, 1 to return to main menu and 2 to exit:");
        scanf("%d",&main_exit);
          if (main_exit==1)
           menu();
```

```
else if (main_exit==2)
            close();
         else if(main_exit==0)
            erase();
          else
            {printf("\nInvalid!\a");
            goto erase_invalid;}
     }
  else
     {printf("\nEnter 1 to go to the main menu and 0 to exit:");
     scanf("%d",&main_exit);
     system("cls");
    if (main_exit==1)
       menu();
     else
       close();
}
void see(void)
  FILE *ptr;
  int test=0,rate;
  int choice;
```

```
float time;
  float intrst;
  ptr=fopen("record.dat","r");
  printf("Do you want to check by\n1.Account no\n2.Name\nEnter your choice:");
  scanf("%d",&choice);
  if (choice==1)
  { printf("Enter the account number:");
    scanf("%d",&check.acc_no);
    while (fscanf(ptr,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/%d",&add.acc_no,add.name,&add.dob.month,&add.dob.day,&add.dob.year,&add.age,a
dd.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depos
it.day,&add.deposit.year)!=EOF)
       if(add.acc_no==check.acc_no)
       { system("cls");
         test=1;
         printf("\nAccount NO.:%d\nName:%s \nDOB:%d/%d/%d \nAge:%d \nAddress:%s
\nCitizenship No:\%s \nPhone number:\%.0lf \nType Of Account:\%s \nAmount deposited:\$ \%.2f
\nDate Of
Deposit: \%d/\%d/\%d/n \ '', add. acc\_no, add. name, add. dob. month, add. dob. day, add. dob. year, add. age
,add.address,add.citizenship,add.phone,
         add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.deposit.year);
         if(strcmpi(add.acc_type, "fixed1")==0)
            {
              time=1.0;
              rate=9;
```

```
intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $%.2f as interest on
%d/%d/%d",intrst,add.deposit.month,add.deposit.day,add.deposit.year+1);
            }
         else if(strcmpi(add.acc_type, "fixed2")==0)
            {
              time=2.0;
              rate=11;
              intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $.%.2f as interest on
%d/%d/%d",intrst,add.deposit.month,add.deposit.day,add.deposit.year+2);
            }
         else if(strcmpi(add.acc_type, "fixed3")==0)
            {
              time=3.0;
              rate=13;
              intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $.%.2f as interest on
%d/%d/%d",intrst,add.deposit.month,add.deposit.day,add.deposit.year+3);
            }
          else if(strcmpi(add.acc_type,"saving")==0)
            {
              time=(1.0/12.0);
              rate=8;
```

```
intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $.%.2f as interest on %d of every
month",intrst,add.deposit.day);
            }
          else if(strcmpi(add.acc_type,"current")==0)
            {
              printf("\n\nYou will get no interest\a\a");
            }
  else if (choice==2)
  { printf("Enter the name:");
    scanf("%s",&check.name);
    while (fscanf(ptr,"%d %s %d/%d/%d %d %s %s %lf %s %f
%d/%d/%d",&add.acc_no,add.name,&add.dob.month,&add.dob.day,&add.dob.year,&add.age,a
dd.address,add.citizenship,&add.phone,add.acc_type,&add.amt,&add.deposit.month,&add.depos
it.day,&add.deposit.year)!=EOF)
      if(strcmpi(add.name,check.name)==0)
       { system("cls");
         test=1;
```

 $printf("\nAccount No.:%d\nName:%s \nDOB:%d/%d/%d \nAge:%d \nAddress:%s \nCitizenship No:%s \nPhone number:%.0lf \nType Of Account:%s \nAmount deposited:$\%.2f \nDate Of$

 $Deposit: \%d/\%d/\%d/n \land n", add.acc_no, add.name, add.dob.month, add.dob.day, add.dob.year, add.age, add.address, add.citizenship, add.phone,$

```
add.acc_type,add.amt,add.deposit.month,add.deposit.day,add.deposit.year);
         if(strcmpi(add.acc_type,"fixed1")==0)
            {
              time=1.0;
              rate=9;
              intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $.%.2f as interest on
%d/%d/%d",intrst,add.deposit.month,add.deposit.day,add.deposit.year+1);
            }
          else if(strcmpi(add.acc_type, "fixed2")==0)
            {
              time=2.0;
              rate=11;
              intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $.%.2f as interest on
%d/%d/%d",intrst,add.deposit.month,add.deposit.day,add.deposit.year+2);
            }
          else if(strcmpi(add.acc_type, "fixed3")==0)
            {
              time=3.0;
              rate=13;
```

```
intrst=interest(time,add.amt,rate);
               printf("\n\nYou will get $.%.2f as interest on
%d/%d/%d",intrst,add.deposit.month,add.deposit.day,add.deposit.year+3);
            }
          else if(strcmpi(add.acc_type,"saving")==0)
            {
               time=(1.0/12.0);
               rate=8;
              intrst=interest(time,add.amt,rate);
              printf("\n\nYou will get $.%.2f as interest on %d of every
month",intrst,add.deposit.day);
             }
          else if(strcmpi(add.acc_type,"current")==0)
            {
               printf("\n\nYou will get no interest\a\a");
             }
       }
```

```
fclose(ptr);
if(test!=1)
  { system("cls");
    printf("\nRecord not found!!\a\a\a");
     see_invalid:
      printf("\nEnter 0 to try again,1 to return to main menu and 2 to exit:");
      scanf("%d",&main_exit);
      system("cls");
        if (main_exit==1)
          menu();
       else if (main_exit==2)
          close();
       else if(main_exit==0)
          see();
       else
          {
            system("cls");
            printf("\nInvalid!\a");
            goto see_invalid;}
  }
else
  {printf("\nEnter 1 to go to the main menu and 0 to exit:");
  scanf("%d",&main_exit);}
  if (main_exit==1)
  {
```

```
system("cls");
      menu();
    else
      {
       system("cls");
      close();
       }
}
void close(void)
{
  printf("\n\n\nBrought\ To\ You\ by\ code-projects.org");
  }
void menu(void)
{ int choice;
  system("cls");
  system("color 7");
  printf("\n\t\t\t) BANKING MANAGEMENT SYSTEM");
```

 $printf("\n\t\t[1] Create a new account\n\t\t[2] Update information of existing account\n\t\t[3] Transactions\n\t\t[4] Check the details of existing account\n\t\t[5] Remove existing account\n\t\t[6] View customer's list\n\t\t[7] ATM Feature\n\t\t[8] Exit\n\n\t\t\t$ Enter your choice:");

```
scanf("%d",&choice);
system("cls");
switch(choice)
{
  case 1:new_acc();
  break;
  case 2:edit();
  break;
  case 3:transact();
  break;
  case 4:see();
  break;
  case 5:erase();
  break;
  case 6:view_list();
  break;
  case 7:atm();
  break;
  case 8:close();
  break;
```

```
}
int main()
{
  char pass[10],password[10]="MYCAPTAIN";
  int i=0;
  printf("\n\n\t\t\t\t\ Bank\ Management\ System\n\t\t\t\t\ User\ Login\ ");
  printf("\n\n\n\t\t\tttEnter the password to login:");
  scanf("%s",pass);
  if (strcmp(pass,password)==0)
    {printf("\n\nPassword Match!\nLOADING");
    for(i=0;i<=6;i++)
       fordelay(100000000);
       printf(". ");
     }
    printf("\n");
         system("pause");
                            system("cls");
       menu();
```

}

```
}
else
  \{ \quad printf("\n\nWrong\ password!!\a\a");
    login_try:
    printf("\nEnter 1 to try again and 0 to exit:");
    scanf("%d",&main_exit);
    if (main_exit==1)
          {
            system("cls");
            main();
    else if (main_exit==0)
          {
         system("cls");
         close();}
    else
          {printf("\nInvalid!");
         fordelay(100000000);
         system("cls");
         goto login_try;}
  }
  return 0;
```

```
}
int atm(){
void mainMenu();
void checkBalance(float balance);
float moneyDeposit(float balance);
float moneyWithdraw(float balance);
void menuExit();
void errorMessage();
int login(void)
{
 float number = 1234;
 int pass;
 printf("\n\n\t\tEnter the PIN No:");
 scanf("%d", &pass);
 if (pass == number)
  {
   printf("\n\nPIN Matched!\nLOADING");
    for(i=0;i<=6;i++)
    {
```

```
fordelay(10000000);
      printf(".");
   system("cls");
  mainMenu();
  }
else
  printf("Invalid\n Try Again");
  login();
return 0;
}
 int option;
 float balance = 15000.00;
 int choose;
 bool again = true;
 login();
 while (again) {
 printf("=-=-=-\n");
 printf("Your Selection:\t");
 scanf("%d", &option);
  system("CLS");
    switch (option) {
```

```
case 1:
    checkBalance(balance);
    break;
  case 2:
    balance = moneyDeposit(balance);
    break;
  case 3:
    balance = moneyWithdraw(balance);
    break;
  case 4:
    menuExit();
    return 0;
  default:
    errorMessage();
    break;
}
printf("=-=-=-|n");
printf("Would you like to do another transaction:\n");
printf("<1>Yes\n");
printf("< 2 > No \n");
scanf("%d", &choose);
system("CLS");
```

```
if (choose == 2) {
     again = false;
     menuExit();
   }else{
     mainMenu();
            }
}
 return 0;
}
void mainMenu() {
 printf("\n\t----Please choose one of the options below----\n");
 printf("\n\t < 1 > Check Balance\n");
 printf("\n\t\< 2 > Deposit\n");
 printf("\n\t\< 3 > Withdraw\n");
 printf("\n\t\4 > Exit\n\n");
```

```
}
void checkBalance(float balance) {
  printf("You Choose to See your Balance\n");
  printf("****Your Available Balance is: $%.2f\n\n", balance);
}
float moneyDeposit(float balance) {
  float deposit;
  printf("You choose to Deposit a money\n");
  printf("$$Your Balance is: $%.2f\n\n", balance);
  printf("****Enter your amount to Deposit\n");
  scanf("%f", &deposit);
  balance += deposit;
  printf("****Your New Balance is: $\%.2f\n\n", balance);
  return balance;
}
float moneyWithdraw(float balance) {
```

```
float withdraw;
bool back = true;
printf("You choose to Withdraw a money\n");
printf("$$Your Balance is: $\%.2f\n'", balance);
while (back) {
printf("Enter your amount to withdraw:\n");
scanf("%f", &withdraw);
if (withdraw < balance) {
  back = false;
  balance -= withdraw;
  printf("$$$$Your withdrawing money is: $%.2f\n", withdraw);
  printf("****Your New Balance is: $%.2f\n\n", balance);
}
  else {
  printf("+++You don't have enough money+++\n");
  printf("Please contact to your Bank Customer Services\n");
  printf("****Your Balance is: $\%.2f\n\n", balance);
```

```
}
  return balance;
}
void menuExit() {
  printf("-----Take your receipt!!!-----\n");
  printf("----Thank you for using ATM Banking Machine!!!----\n");
  printf("---- Brought To by code-projects.org ----\n");
}
void errorMessage() {;
  printf("+++!!!You selected invalid number!!!+++\n");
}
```