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AIM

To create a bookshop management system by using C++.

OVERVIEW OF C++

C++ is a statically typed, compiled, general purpose, case sensitive, free-form programming language that supports procedural, object-oriented, and generic programming.

It is regarded as a middle-level programming language as it comprises a combination of both high-level and low-level language features.

C++ was developed by Bjarne Stroustrup in 1979 at Bell Labs in Murray Hill, New Jersey, as an enhancement to the existing C language. It was originally named C with Classes but was later renamed to C++ in 1983. It is a superset of C, and virtually, any legal C program is a legal C++ program.

REQUIREMENTS

HARDWARE AND SOFTWARE

- HARDWARE
  - Printer, to print the required documents of the project
  - Compact Drive
  - Processor: Pentium III
  - Ram: 64 MB
  - Hard disk: 20 Gb.

- SOFTWARE
  - Operating system: Windows XP
  - Turbo C++, for execution of program and MS word, for presentation of output.

HEADER FILES

1. **FSTREAM.H** – for file handling, cin and cout
2. **PROCESS.H** – for exit() function
3. **CONIO.H** – for clrscr() and getch() functions
4. **STDIO.H** – for standard I/O operations
5. **STRING.H** – for string handling
6. **CTYPE.H** – for character handling

CLASSES AND OBJECTS

1) **A class subject was created to initialise the books and subjects available**

```
class subject
{
 public:
  char s[5][40],sub[5][5][40];
  subject()
  {
   strcpy(sub[0][0],"Physics NCERT-I");
   strcpy(sub[0][1],"Physics NCERT-II");
   strcpy(sub[0][2],"Pradeep Physics");
   strcpy(sub[0][3],"H.C.Verma\t");
   strcpy(sub[0][4],"Together With");
   strcpy(sub[1][0],"Chemistry NCERT-I");
   strcpy(sub[1][1],"Chemistry NCERT-II");
   strcpy(sub[1][2],"Pradeep Chemistry");
   strcpy(sub[1][3],"Together With");
   strcpy(sub[1][4],"P.Bahaadur\t");
   strcpy(sub[2][0],"Maths NCERT-I");
   strcpy(sub[2][1],"Maths NCERT-II");
   strcpy(sub[2][2],"Maths ND-I\t");
   strcpy(sub[2][3],"Maths ND-II");
   strcpy(sub[2][4],"R.D.Sharma\t");
```

```
    strcpy(sub[3][0],"Flemingo Textbook");
    strcpy(sub[3][1],"Vistas Textbook");
    strcpy(sub[3][2],"Flemingo ND");
    strcpy(sub[3][3],"Vistas ND\t");
    strcpy(sub[3][4],"Golden Guide");
    strcpy(sub[4][0],"Sumita Arora");
    strcpy(sub[4][1],"Together With");
    strcpy(sub[4][2],"Evergreen C++");
    strcpy(sub[4][3],"Rohit Question Bank");
    strcpy(sub[4][4],"Osborne\t");
    strcpy(s[0],"Physics\t");
    strcpy(s[1],"Chemistry\t");
    strcpy(s[2],"Maths\t");
    strcpy(s[3],"English\t");
    strcpy(s[4],"Computer Science");
   }
};
```

2) A class userlist was created to store the user list

```
class user list
{
 public:
  int no;
  char users[100][50];
};
```

3) A class user was created to store information of individual users

```
class user
{
 public:
  int sbj[5][7],totp,totr;
  char password[20];
  void showpb()
  {
   cout<<"\n\n\n\n\n\n 'P' Purchase\n 'B' Back";
  }
};
```

FUNCTIONS

❖ **Built In:**

1. **clrscr();** - to clear the console screen.
2. **getch();** - to hold the output window until hitting any key from the keyboard.
3. **textbackground(3);** - to change background colour in text mode to cyan
4. **textcolor(0);** - to change text colour to black
5. **exit(0);** - to exit the program

❖ **User Defined:**

➢ **To create a user account:**

```
int crtusr()
{
 clrscr();
 char name[50],reply;
 ifstream fi;
 user u;
 userlist list;
 fi.open("USERLIST");
 fi.read((char *) &list,sizeof(list));
 fi.close();
 if(list.no==99)
 {
  clrscr();
```

```
  cout<<"\n\tYou can't create any account.\n\t";
  cout<<"Since the accoutn list is full,\n\tso you
have to";
  cout<<" delete an account";
  show2();
  getch();
  return 0;
 }
 cout<<"\n Enter your name(max 49
characters):\n ";
 page2:
 cin.getline(name,49);uppercase(name);
 if(name[0]=='\0'||name[0]==' ')
 {
  clrscr();
  cout<<"\n Please enter a valid name:";
  goto page2;
 }
 for(int i=0;name[i]!='\0';i++)
 {

if(name[i]=='\\'||name[i]=='/'||name[i]==':'||name[i
]=='*'||name[i]=='?'||name[i]=='\"'||name[i]=='<'||n
ame[i]=='>'||name[i]=='|')
  {
   clrscr();
   cout<<"\n Please enter a valid name:";
```

```
   goto page2;
  }
 }
 fi.open(name);
 if(fi.good())
 {
  clrscr();
  cout<<"\n The name you have entered is already
present!";
  cout<<"\n Please enter another:\n ";
  goto page2;
 }
 fi.close();
 page:
 clrscr();
 cout<<"\n Do you want to add a password?
(y/n):";
 reply=getch();
 if(reply=='Y'||reply=='y')
 {
  clrscr();
  cout<<"\n Enter your password(max 19
characters):\n ";
  cin.getline(u.password,19);
 }
 else if(reply=='N'||reply=='n')
  strcpy(u.password,"########");
```

```
else
 goto page;
setdefault(u);
ofstream fo(name);
fo.write((char *) &u,sizeof(u));
fo.close();
strcpy(list.users[list.no],name);
list.no++;
fo.open("USERLIST");
fo.write((char *) &list,sizeof(list));
fo.close();
clrscr();
cout<<"\n\n\tCongratulations! ";
cout<<"You have created your account of
name:\n\t'"<<name<<"'";
show2();
getch();
return 0;
}
```

- **To set default value of purchased and returned books as zero**

```
void setdefault(user &usr)
{
 int i,j;
 for(i=0;i<5;i++)
 {
```

```
 for(j=0;j<7;j++)
 {
  usr.sbj[i][j]=0;
 }
}
usr.totp=0;
usr.totr=0;
}
```

- **To check user list**

```
void chkusrlst()
{
 ifstream usrlst;
 usrlst.open("userlist");
 if(!usrlst.good())
 {
  ofstream fo("userlist");
  userlist list;
  list.no=0;
  fo.write((char *) &list,sizeof(list));
  fo.close();
 }
 usrlst.close();
}
```

- **To check booklist**

```
void chkbooklst()
```

```
{
 ifstream booklst;
 int i,j;
 booklst.open("booklist");
 if(!booklst.good())
 {
  ofstream fo("booklist");
  user bklst;
  for(i=0;i<5;i++)
  {
   for(j=0;j<5;j++)
   {
    bklst.sbj[i][j]=1000;
   }
  }
  for(i=0;i<5;i++)
  {
   bklst.sbj[i][5]=0;
   bklst.sbj[i][6]=0;
  }
  bklst.totp=0;
  bklst.totr=0;
  fo.write((char *)&bklst,sizeof(bklst));
  fo.close();
 }
 booklst.close();
}
```

- **To show books**

```
int showbooks()
{
 user guest;
 subject sb;
 char i,k,ch,ch1,ch2;
 int x,y,j;
 page1:
 clrscr();
 ifstream fi("Booklist");
 fi.read((char *) &guest,sizeof(guest));
 fi.close();
 cout<<"\n\n\n\n\n\n\n";
 for(x=0;x<5;x++)
 {
  cout<<" "'<<x+1<<"' "<<sb.s[x]<<"\n";
 }
 cout<<" 'B' Back";
 show();
 ch=getch();
 for(i='1',x=0;i<='5';i++,x++)
 {
  page2:
  clrscr();
  if(ch==i)
  {
```

```
cout<<"\n\n\n\t\t"<<sb.s[x]<<"\n\n\n\n";
for(j=0;j<5;j++)
{
 cout<<" \'"<<j+1<<"\' "<<sb.sub[x][j]<<"\t";
 cout<<guest.sbj[x][j]<<" remaining\n";
}
cout<<" 'B' Back";
show();
ch1=getch();
for(k='1',y=0;k<='5';k++,y++)
{
 if(ch1==k)
 {
  page3:
  clrscr();
  cout<<"\n\t\t\t\t"<<sb.sub[x][y];
  guest.showpb();
  show();
  ch2=getch();
  if(ch2=='P'||ch2=='p')
  {
   if(guest.sbj[x][y]>0)
   {
    guest.totp++;
    guest.sbj[x][5]++;
    guest.sbj[x][y]--;
    notification(guest);
```

```
      }
      else
      {
       clrscr();
       cout<<"\n\n\tYou can't purchase this
book.\n\tMake ";
       cout<<"sure that no. of copies of this
book\n\tin ";
       cout<<"this shop is greater than zero.";
       show2();
       getch();
       goto page2;
      }
     }
     else if(ch2=='B'||ch2=='b')
      goto page2;
     else
      goto page3;
     break;
    }
   }
   if(ch1=='B'||ch1=='b')
    goto page1;
   else
    goto page2;
  }
 }
```

```
 if(ch=='B'||ch=='b')
  return 1;
 else
  goto page1;
}
```

- **To display given notification**

```
1) void notification(user &u)
    {
     clrscr();
     ofstream f("BOOKLIST");
     f.write((char *) &u,sizeof(u));
     f.close();
     cout<<"\n\n\n\n\n\n\n\tThank you for your
    purchasing this book. ";
     cout<<"Next time you must create\n\tan
    account so that you can ";
     cout<<"purchase more than one book and also
    can\n\treturn books";
     cout<<" purchased from this shop.\n\n\n\n\n";
     getch();
    }

2) void show()
    {
     cout<<"\n\n\n\n\n\tPress any of the keys given
    above!";
```

```
    }

3) void show2()
    {
     cout<<"\n\n\n\n\n\tPress any key to back!";
    }
```

- **To show books purchased and returned**

```
void pur_ret(char name[])
{
 clrscr();
 user u;
 subject s;
 ifstream fi(name);
 int i;
 fi.read((char *) &u,sizeof(u));
 fi.close();
 cout<<"\n\n\n\n
Subject\t\tPurchased\tReturned\n\n\n";
 for(i=0;i<5;i++)
 {
  cout<<" "<<i+1<<"."<<"
"<<s.s[i]<<"\t"<<u.sbj[i][5];
  cout<<"\t\t"<<u.sbj[i][6]<<"\n";
 }
 cout<<" 6.
"<<"Total\t\t"<<u.totp<<"\t\t"<<u.totr;
```

```
 show2();
 getch();
}
```

- **To open an account**

```
int openacc()
{
 user u, bklst;
 userlist list;
 char name[50],passw[20],reply;
 ofstream fo;
 page1:
 clrscr();
 cout<<"\n Enter your account name:\n ";
 cin.getline(name,49);
 uppercase(name);
 ifstream fi(name);
 if(!fi.good())
 {
  pagename:
  clrscr();
  cout<<"\n\n Wrong account name!\n Enter
again?(y/n)\n ";
  reply=getch();
  if(reply=='y'||reply=='Y')
   goto page1;
  else if(reply=='n'||reply=='N')
```

```
  return 0;
 else
  goto pagename;
}
fi.read((char *) &u,sizeof(u));
fi.close();
fi.open("USERLIST");
fi.read((char *) &list,sizeof(list));
fi.close();
int flag=0;
for(int s=0;s<list.no;s++)
{
 if(!strcmp(name,list.users[s]))
 {
  flag=1;
  break;
 }
}
if(flag==0)
{
 strcpy(list.users[list.no],name);
 list.no++;
 fo.open("USERLIST");
 fo.write((char *) &list,sizeof(list));
 fo.close();
}
if(!strcmp(u.password,"########"))
```

```
 goto page3;
page2:
clrscr();
cout<<"\n Enter your password:\n ";
cin.getline(passw,19);
if(strcmp(u.password,passw))
{
 pagepass:
 clrscr();
 cout<<"\n\n Wrong password!\n Enter
again?(y/n)\n ";
 reply=getch();
 if(reply=='y'||reply=='Y')
  goto page2;
 else if(reply=='n'||reply=='N')
  return 0;
 else
  goto pagepass;
}
page3:
clrscr();
fi.open("BOOKLIST");
fi.read((char *) &bklst,sizeof(bklst));
fi.close();
cout<<"\n\n\n\tWelcome "<<name;
cout<<"\n\n\n\n '1' Purchase/return books\n '2'
No. of books";
```

```
 cout<<" you are having\n '3' No. of books
purchased/retutned ";
 cout<<"by you\n '4' Add/modify password\n '5'
Remove password\n ";
 cout<<"'6' Delete your account\n 'B' Back";
 show();
 reply=getch();
 if(reply=='1')
 {
  subject sb;
  char i,k,ch,ch1,ch2;
  int x,y,j;
  page31:
  clrscr();
  cout<<"\n\n\n\n\n\n\n";
  for(x=0;x<5;x++)
  {
   cout<<" '"<<x+1<<"' "<<sb.s[x]<<"\n";
  }
  cout<<" 'B' Back";
  show();
  ch=getch();
  for(i='1',x=0;i<='5';i++,x++)
  {
   page32:
   clrscr();
   if(ch==i)
```

```
{
 cout<<"\n\n\n\t\t"<<sb.s[x]<<"\n\n\n\n";
 for(j=0;j<5;j++)
 {
  cout<<" \""<<j+1<<"\' "<<sb.sub[x][j]<<"\t";
  cout<<bklst.sbj[x][j]<<" remaining\n";
 }
 cout<<" 'B' Back";
 show();
 ch1=getch();
 for(k='1',y=0;k<='5';k++,y++)
 {
  if(ch1==k)
  {
   page33:
   clrscr();
   cout<<"\n\t\t\t\t"<<sb.sub[x][y];
   u.showpb();
   cout<<"\n 'R' Return";
   show();
   ch2=getch();
   if(ch2=='P'||ch2=='p')
   {
    if(bklst.sbj[x][y]>0)
    {
     u.totp++;
     bklst.totp++;
```

```
        u.sbj[x][5]++;
        bklst.sbj[x][5]++;
        u.sbj[x][y]++;
        bklst.sbj[x][y]--;
        fo.open("BOOKLIST");
        fo.write((char *) &bklst,sizeof(bklst));
        fo.close();
        fo.open(name);
        fo.write((char *) &u,sizeof(u));
        fo.close();
        clrscr();
        cout<<"\n\n\tOK! You have purchased this
book";
       }
       else
       {
        clrscr();
        cout<<"\n\n\tYou can't purchase this
book.\n\tMake ";
        cout<<"sure that no. of copies of this
book\n\tin ";
        cout<<"this shop is greater than zero.";
       }
       show2();
       getch();
       goto page32;
      }
```

```
      else if(ch2=='r'||ch2=='R')
      {
       if(u.sbj[x][y]>0)
       {
        u.totr++;
        bklst.totr++;
        u.sbj[x][6]++;
        bklst.sbj[x][6]++;
        u.sbj[x][y]--;
        bklst.sbj[x][y]++;
        fo.open("BOOKLIST");
        fo.write((char *) &bklst,sizeof(bklst));
        fo.close();
        fo.open(name);
        fo.write((char *) &u,sizeof(u));
        fo.close();
        clrscr();
        cout<<"\n\n\tOK! You have returned this
book";
       }
       else
       {
        clrscr();
        cout<<"\n\n\tYou can't return this
book.\n\tMake ";
        cout<<"sure that no. of copies of this
book\n\tyou";
```

```
      cout<<" are having is greater than zero.";
      }
      show2();
      getch();
      goto page32;
     }
     else if(ch2=='B'||ch2=='b')
      goto page32;
     else
      goto page33;
    }
   }
   if(ch1=='B'||ch1=='b')
    goto page31;
   else
    goto page32;
  }
 }
 if(ch=='B'||ch=='b')
  goto page3;
 else
  goto page31;
}
else if(reply=='2')
{
 clrscr();
 int i,j;
```

```
 for(i=0;i<5;i++)
 {
  subject sb;
  cout<<"\n "<<sb.s[i]<<"\n";
  for(j=0;j<5;j++)
  {
   cout<<"  "<<j+1<<".
"<<sb.sub[i][j]<<"\t"<<u.sbj[i][j];
   cout<<" remaining\n";
  }
 }
 show2();
 getch();
 goto page3;
}
else if(reply=='3')
{
 pur_ret(name);
 goto page3;
}
else if(reply=='4')
{
 clrscr();
 cout<<"\n Enter new password(max 19
characters):\n ";
 cin.getline(passw,19);
 strcpy(u.password,passw);
```

```
 clrscr();
 cout<<"\n\tPassword modified succesfully!";
 show2();
 getch();
 fo.open(name);
 fo.write((char *) &u,sizeof(u));
 fo.close();
 goto page3;
}
else if(reply=='5')
{
 page35:
 clrscr();
 cout<<"\n Remove password?(y/n):";
 reply=getch();
 if(reply=='Y'||reply=='y')
 {
  strcpy(u.password,"########");
  fo.open(name);
  fo.write((char *) &u,sizeof(u));
  fo.close();
  clrscr();
  cout<<"\n\tPassword removed successfully!";
  show2();
  getch();
  goto page3;
 }
```

```
  else if(reply=='N'||reply=='n')
   goto page3;
  else
   goto page35;
 }
 else if(reply=='6')
 {
  page36:
  clrscr();
  cout<<"\n Do you want to delete your
account?(y/n):";
  reply=getch();
  if(reply=='Y'||reply=='y')
  {
   clrscr();
   remove(name);
   cout<<"\n\tYour account is deleted
successfully!";
   show2();
   getch();
   namecutter(name);
   return 0;
  }
  else if(reply=='N'||reply=='n')
   goto page3;
  else
   goto page36;
```

```
 }
 else if(reply=='b'||reply=='B')
 {
  page3b:
  clrscr();
  cout<<"\n Do you want to exit from your
account?(y/n):";
  reply=getch();
  if(reply=='Y'||reply=='y')
   return 0;
  else if(reply=='N'||reply=='n')
   goto page3;
  else
   goto page3b;
 }
 else
  goto page3;
}
void uppercase(char *a)
{
 for(int i=0;a[i]!='\0';i++)
 {
  a[i]=toupper(a[i]);
 }
}
```

- **To show user list**

```
void showuserlist()
{
 clrscr();
 int i;
 userlist list;
 ifstream fi("USERLIST");
 fi.read((char *) &list,sizeof(list));
 fi.close();
 for(i=0;i<list.no;i++)
 {
  cout<<"\n "<<i+1<<". "<<list.users[i];
 }
 show2();
 getch();
}
```

- **To cut names**

```
void namecutter(char name[])
{
 userlist u;
 char temp[50];
 int i;
 ifstream fi("USERLIST");
 fi.read((char *) &u,sizeof(u));
 fi.close();
```

```
for(i=0;i<u.no-1;i++)
{
 if(strcmp(u.users[i],name)==0)
 {
  strcpy(temp,u.users[i]);
  strcpy(u.users[i],u.users[i+1]);
  strcpy(u.users[i+1],temp);
 }
}
u.no--;
ofstream fo("USERLIST");
fo.write((char *) &u,sizeof(u));
fo.close();
}
```

ALGORITHM

Step 1: Start

Step 2: Read character

Step 3: Check conditions

- If character is 1 then display list of books using function
- If character is 2 then create an account using function
- If character is 3 then open an account using function
- If character is 4 then see number of books purchased or returned using function
- If character is 5 then see the list of accounts using function
- If character is 6 then quit using exit function
- Or else go to the starting of the program using jump statement

Step 4: Stop

SOURCE CODE

```
#include<fstream.h>
#include<conio.h>
#include<string.h>
#include<process.h>
#include<stdio.h>
#include<ctype.h>
class subject
{
 public:
  char s[5][40],sub[5][5][40];
  subject()
  {
   strcpy(sub[0][0],"Physics NCERT-I");
   strcpy(sub[0][1],"Physics NCERT-II");
   strcpy(sub[0][2],"Pradeep Physics");
   strcpy(sub[0][3],"H.C.Verma\t");
   strcpy(sub[0][4],"Together With");
   strcpy(sub[1][0],"Chemistry NCERT-I");
   strcpy(sub[1][1],"Chemistry NCERT-II");
```

```
strcpy(sub[1][2],"Pradeep Chemistry");
strcpy(sub[1][3],"Together With");
strcpy(sub[1][4],"P.Bahaadur\t");
strcpy(sub[2][0],"Maths NCERT-I");
strcpy(sub[2][1],"Maths NCERT-II");
strcpy(sub[2][2],"Maths ND-I\t");
strcpy(sub[2][3],"Maths ND-II");
strcpy(sub[2][4],"R.D.Sharma\t");
strcpy(sub[3][0],"Flemingo Textbook");
strcpy(sub[3][1],"Vistas Textbook");
strcpy(sub[3][2],"Flemingo ND");
strcpy(sub[3][3],"Vistas ND\t");
strcpy(sub[3][4],"Golden Guide");
strcpy(sub[4][0],"Sumita Arora");
strcpy(sub[4][1],"Together With");
strcpy(sub[4][2],"Evergreen C++");
strcpy(sub[4][3],"Rohit Question Bank");
strcpy(sub[4][4],"Osborne\t");
strcpy(s[0],"Physics\t");
strcpy(s[1],"Chemistry\t");
strcpy(s[2],"Maths\t");
```

```
   strcpy(s[3],"English\t");
   strcpy(s[4],"Computer Science");
  }
};
void show();
void show2();
class userlist
{
 public:
  int no;
  char users[100][50];
};
class user
{
 public:
  int sbj[5][7],totp,totr;
  char password[20];
  void showpb()
  {
   cout<<"\n\n\n\n\n\n 'P' Purchase\n 'B' Back";
  }
```

```
};
void uppercase(char *);
void pur_ret(char name[]);
void notification(user &);
void setdefault(user &);
void chkusrlst();
void chkbooklst();
void showuserlist();
int crtusr();
int showbooks();
int openacc();
void namecutter(char name[]);
void main()
{
 clrscr();
 textbackground(3);
 textcolor(0);
 chkusrlst();
 chkbooklst();
 mpage:
 clrscr();
```

```
 char ch;
 cout<<"\n\n\t\t\tWelcome To OSM BOOKSHOP\n\n\n\n\n '1' See the ";
 cout<<"lists of books\n '2' Create an account\n '3' Open an account";
 cout<<"\n '4' See about no. of books purchased/returned\n";
 cout<<" '5' See the list of accounts\n '6' Quit";
 show();
 ch=getch();
 switch(ch)
 {
  case '1': if(showbooks()==1)
             goto mpage;
            break;
  case '2': crtusr();
            goto mpage;
  case '3': openacc();
            goto mpage;
  case '4': pur_ret("BOOKLIST");
            goto mpage;
  case '5': showuserlist();
            goto mpage;
```

```
 case '6': exit(0);
 default : goto mpage;
 }
 getch();
}
int crtusr()
{
 clrscr();
 char name[50],reply;
 ifstream fi;
 user u;
 userlist list;
 fi.open("USERLIST");
 fi.read((char *) &list,sizeof(list));
 fi.close();
 if(list.no==99)
 {
  clrscr();
  cout<<"\n\tYou can't create any account.\n\t";
  cout<<"Since the accoutn list is full,\n\tso you have to";
  cout<<" delete an account";
```

```
 show2();
 getch();
 return 0;
}
cout<<"\n Enter your name(max 49 characters):\n ";
page2:
cin.getline(name,49);uppercase(name);
if(name[0]=='\0'||name[0]==' ')
{
 clrscr();
 cout<<"\n Please enter a valid name:";
 goto page2;
}
for(int i=0;name[i]!='\0';i++)
{

if(name[i]=='\\'||name[i]=='/'||name[i]==':'||name[i]=='*'||name[i]
=='?'||name[i]=='\"'||name[i]=='<'||name[i]=='>'||name[i]=='|')
 {
  clrscr();
  cout<<"\n Please enter a valid name:";
  goto page2;
```

```
 }
}
fi.open(name);
if(fi.good())
{
 clrscr();
 cout<<"\n The name you have entered is already present!";
 cout<<"\n Please enter another:\n ";
 goto page2;
}
fi.close();
page:
clrscr();
cout<<"\n Do you want to add a password? (y/n):";
reply=getch();
if(reply=='Y'||reply=='y')
{
 clrscr();
 cout<<"\n Enter your password(max 19 characters):\n ";
 cin.getline(u.password,19);
}
```

```
 else if(reply=='N'||reply=='n')
  strcpy(u.password,"########");
 else
  goto page;
 setdefault(u);
 ofstream fo(name);
 fo.write((char *) &u,sizeof(u));
 fo.close();
 strcpy(list.users[list.no],name);
 list.no++;
 fo.open("USERLIST");
 fo.write((char *) &list,sizeof(list));
 fo.close();
 clrscr();
 cout<<"\n\n\tCongratulations! ";
 cout<<"You have created your account of
name:\n\t'"<<name<<"'";
 show2();
 getch();
 return 0;
}
```

```
void setdefault(user &usr)
{
 int i,j;
 for(i=0;i<5;i++)
 {
  for(j=0;j<7;j++)
  {
   usr.sbj[i][j]=0;
  }
 }
 usr.totp=0;
 usr.totr=0;
}
void chkusrlst()
{
 ifstream usrlst;
 usrlst.open("userlist");
 if(!usrlst.good())
 {
  ofstream fo("userlist");
  userlist list;
```

```
 list.no=0;
 fo.write((char *) &list,sizeof(list));
 fo.close();
 }
 usrlst.close();
}
void chkbooklst()
{
 ifstream booklst;
 int i,j;
 booklst.open("booklist");
 if(!booklst.good())
 {
  ofstream fo("booklist");
  user bklst;
  for(i=0;i<5;i++)
  {
   for(j=0;j<5;j++)
   {
    bklst.sbj[i][j]=1000;
   }
```

```
 }
 for(i=0;i<5;i++)
 {
  bklst.sbj[i][5]=0;
  bklst.sbj[i][6]=0;
 }
 bklst.totp=0;
 bklst.totr=0;
 fo.write((char *)&bklst,sizeof(bklst));
 fo.close();
}
booklst.close();
}
int showbooks()
{
 user guest;
 subject sb;
 char i,k,ch,ch1,ch2;
 int x,y,j;
 page1:
 clrscr();
```

```
ifstream fi("Booklist");
fi.read((char *) &guest,sizeof(guest));
fi.close();
cout<<"\n\n\n\n\n\n\n";
for(x=0;x<5;x++)
{
 cout<<" '"<<x+1<<"' "<<sb.s[x]<<"\n";
}
cout<<" 'B' Back";
show();
ch=getch();
for(i='1',x=0;i<='5';i++,x++)
{
 page2:
 clrscr();
 if(ch==i)
 {
  cout<<"\n\n\n\t\t"<<sb.s[x]<<"\n\n\n\n";
  for(j=0;j<5;j++)
  {
   cout<<" \'"<<j+1<<"\' "<<sb.sub[x][j]<<"\t";
```

```
 cout<<guest.sbj[x][j]<<" remaining\n";
}
cout<<" 'B' Back";
show();
ch1=getch();
for(k='1',y=0;k<='5';k++,y++)
{
 if(ch1==k)
 {
  page3:
  clrscr();
  cout<<"\n\t\t\t\t"<<sb.sub[x][y];
  guest.showpb();
  show();
  ch2=getch();
  if(ch2=='P'||ch2=='p')
  {
   if(guest.sbj[x][y]>0)
   {
    guest.totp++;
    guest.sbj[x][5]++;
```

```
    guest.sbj[x][y]--;
    notification(guest);
   }
   else
   {
    clrscr();
    cout<<"\n\n\tYou can't purchase this book.\n\tMake ";
    cout<<"sure that no. of copies of this book\n\tin ";
    cout<<"this shop is greater than zero.";
    show2();
    getch();
    goto page2;
   }
  }
  else if(ch2=='B'||ch2=='b')
   goto page2;
  else
   goto page3;
  break;
 }
}
```

```
  if(ch1=='B'||ch1=='b')
   goto page1;
  else
   goto page2;
 }
}
if(ch=='B'||ch=='b')
 return 1;
else
 goto page1;
}
void notification(user &u)
{
 clrscr();
 ofstream f("BOOKLIST");
 f.write((char *) &u,sizeof(u));
 f.close();
 cout<<"\n\n\n\n\n\n\n\tThank you for your purchasing this
book. ";
 cout<<"Next time you must create\n\tan account so that you can
";
```

```
 cout<<"purchase more than one book and also can\n\treturn
books";
 cout<<" purchased from this shop.\n\n\n\n\n";
 getch();
}
void show()
{
 cout<<"\n\n\n\n\n\tPress any of the keys given above!";
}
void show2()
{
 cout<<"\n\n\n\n\n\tPress any key to back!";
}
void pur_ret(char name[])
{
 clrscr();
 user u;
 subject s;
 ifstream fi(name);
 int i;
 fi.read((char *) &u,sizeof(u));
```

```
 fi.close();
 cout<<"\n\n\n\n Subject\t\tPurchased\tReturned\n\n\n";
 for(i=0;i<5;i++)
 {
  cout<<" "<<i+1<<"."<<" "<<s.s[i]<<"\t"<<u.sbj[i][5];
  cout<<"\t\t"<<u.sbj[i][6]<<"\n";
 }
 cout<<" 6. "<<"Total\t\t"<<u.totp<<"\t\t"<<u.totr;
 show2();
 getch();
}
int openacc()
{
 user u, bklst;
 userlist list;
 char name[50],passw[20],reply;
 ofstream fo;
 page1:
 clrscr();
 cout<<"\n Enter your account name:\n ";
 cin.getline(name,49);
```

```
uppercase(name);
ifstream fi(name);
if(!fi.good())
{
 pagename:
 clrscr();
 cout<<"\n\n Wrong account name!\n Enter again?(y/n)\n ";
 reply=getch();
 if(reply=='y'||reply=='Y')
  goto page1;
 else if(reply=='n'||reply=='N')
  return 0;
 else
  goto pagename;
}
fi.read((char *) &u,sizeof(u));
fi.close();
fi.open("USERLIST");
fi.read((char *) &list,sizeof(list));
fi.close();
int flag=0;
```

```
for(int s=0;s<list.no;s++)
{
 if(!strcmp(name,list.users[s]))
 {
  flag=1;
  break;
 }
}
if(flag==0)
{
 strcpy(list.users[list.no],name);
 list.no++;
 fo.open("USERLIST");
 fo.write((char *) &list,sizeof(list));
 fo.close();
}
if(!strcmp(u.password,"########"))
 goto page3;
page2:
clrscr();
cout<<"\n Enter your password:\n ";
```

```
cin.getline(passw,19);
if(strcmp(u.password,passw))
{
 pagepass:
 clrscr();
 cout<<"\n\n Wrong password!\n Enter again?(y/n)\n ";
 reply=getch();
 if(reply=='y'||reply=='Y')
  goto page2;
 else if(reply=='n'||reply=='N')
  return 0;
 else
  goto pagepass;
}
page3:
clrscr();
fi.open("BOOKLIST");
fi.read((char *) &bklst,sizeof(bklst));
fi.close();
cout<<"\n\n\n\tWelcome "<<name;
cout<<"\n\n\n\n '1' Purchase/return books\n '2' No. of books";
```

```
 cout<<" you are having\n '3' No. of books purchased/retutned ";
 cout<<"by you\n '4' Add/modify password\n '5' Remove
password\n ";
 cout<<"'6' Delete your account\n 'B' Back";
 show();
 reply=getch();
 if(reply=='1')
 {
  subject sb;
  char i,k,ch,ch1,ch2;
  int x,y,j;
  page31:
  clrscr();
  cout<<"\n\n\n\n\n\n\n";
  for(x=0;x<5;x++)
  {
   cout<<" '"<<x+1<<"' "<<sb.s[x]<<"\n";
  }
  cout<<" 'B' Back";
  show();
  ch=getch();
```

```
for(i='1',x=0;i<='5';i++,x++)
{
 page32:
 clrscr();
 if(ch==i)
 {
  cout<<"\n\n\n\t\t"<<sb.s[x]<<"\n\n\n\n";
  for(j=0;j<5;j++)
  {
   cout<<" \""<<j+1<<"\' "<<sb.sub[x][j]<<"\t";
   cout<<bklst.sbj[x][j]<<" remaining\n";
  }
  cout<<" 'B' Back";
  show();
  ch1=getch();
  for(k='1',y=0;k<='5';k++,y++)
  {
   if(ch1==k)
   {
    page33:
    clrscr();
```

```
cout<<"\n\t\t\t\t"<<sb.sub[x][y];
u.showpb();
cout<<"\n 'R' Return";
show();
ch2=getch();
if(ch2=='P'||ch2=='p')
{
 if(bklst.sbj[x][y]>0)
 {
  u.totp++;
  bklst.totp++;
  u.sbj[x][5]++;
  bklst.sbj[x][5]++;
  u.sbj[x][y]++;
  bklst.sbj[x][y]--;
  fo.open("BOOKLIST");
  fo.write((char *) &bklst,sizeof(bklst));
  fo.close();
  fo.open(name);
  fo.write((char *) &u,sizeof(u));
  fo.close();
```

```
 clrscr();
 cout<<"\n\n\tOK! You have purchased this book";
}
else
{
 clrscr();
 cout<<"\n\n\tYou can't purchase this book.\n\tMake ";
 cout<<"sure that no. of copies of this book\n\tin ";
 cout<<"this shop is greater than zero.";
 }
 show2();
 getch();
 goto page32;
}
else if(ch2=='r'||ch2=='R')
{
 if(u.sbj[x][y]>0)
 {
  u.totr++;
  bklst.totr++;
  u.sbj[x][6]++;
```

```
 bklst.sbj[x][6]++;
 u.sbj[x][y]--;
 bklst.sbj[x][y]++;
 fo.open("BOOKLIST");
 fo.write((char *) &bklst,sizeof(bklst));
 fo.close();
 fo.open(name);
 fo.write((char *) &u,sizeof(u));
 fo.close();
 clrscr();
 cout<<"\n\n\tOK! You have returned this book";
}
else
{
 clrscr();
 cout<<"\n\n\tYou can't return this book.\n\tMake ";
 cout<<"sure that no. of copies of this book\n\tyou";
 cout<<" are having is greater than zero.";
}
show2();
getch();
```

```
      goto page32;
     }
     else if(ch2=='B'||ch2=='b')
      goto page32;
     else
      goto page33;
    }
   }
   if(ch1=='B'||ch1=='b')
    goto page31;
   else
    goto page32;
  }
 }
 if(ch=='B'||ch=='b')
  goto page3;
 else
  goto page31;
}
else if(reply=='2')
{
```

```
clrscr();
int i,j;
for(i=0;i<5;i++)
{
 subject sb;
 cout<<"\n "<<sb.s[i]<<"\n";
 for(j=0;j<5;j++)
 {
  cout<<"  "<<j+1<<". "<<sb.sub[i][j]<<"\t"<<u.sbj[i][j];
  cout<<" remaining\n";
 }
}
show2();
getch();
goto page3;
}
else if(reply=='3')
{
 pur_ret(name);
 goto page3;
}
```

```
else if(reply=='4')
{
 clrscr();
 cout<<"\n Enter new password(max 19 characters):\n ";
 cin.getline(passw,19);
 strcpy(u.password,passw);
 clrscr();
 cout<<"\n\tPassword modified succesfully!";
 show2();
 getch();
 fo.open(name);
 fo.write((char *) &u,sizeof(u));
 fo.close();
 goto page3;
}
else if(reply=='5')
{
 page35:
 clrscr();
 cout<<"\n Remove password?(y/n):";
 reply=getch();
```

```
 if(reply=='Y'||reply=='y')
 {
  strcpy(u.password,"########");
  fo.open(name);
  fo.write((char *) &u,sizeof(u));
  fo.close();
  clrscr();
  cout<<"\n\tPassword removed successfully!";
  show2();
  getch();
  goto page3;
 }
 else if(reply=='N'||reply=='n')
  goto page3;
 else
  goto page35;
}
else if(reply=='6')
{
 page36:
 clrscr();
```

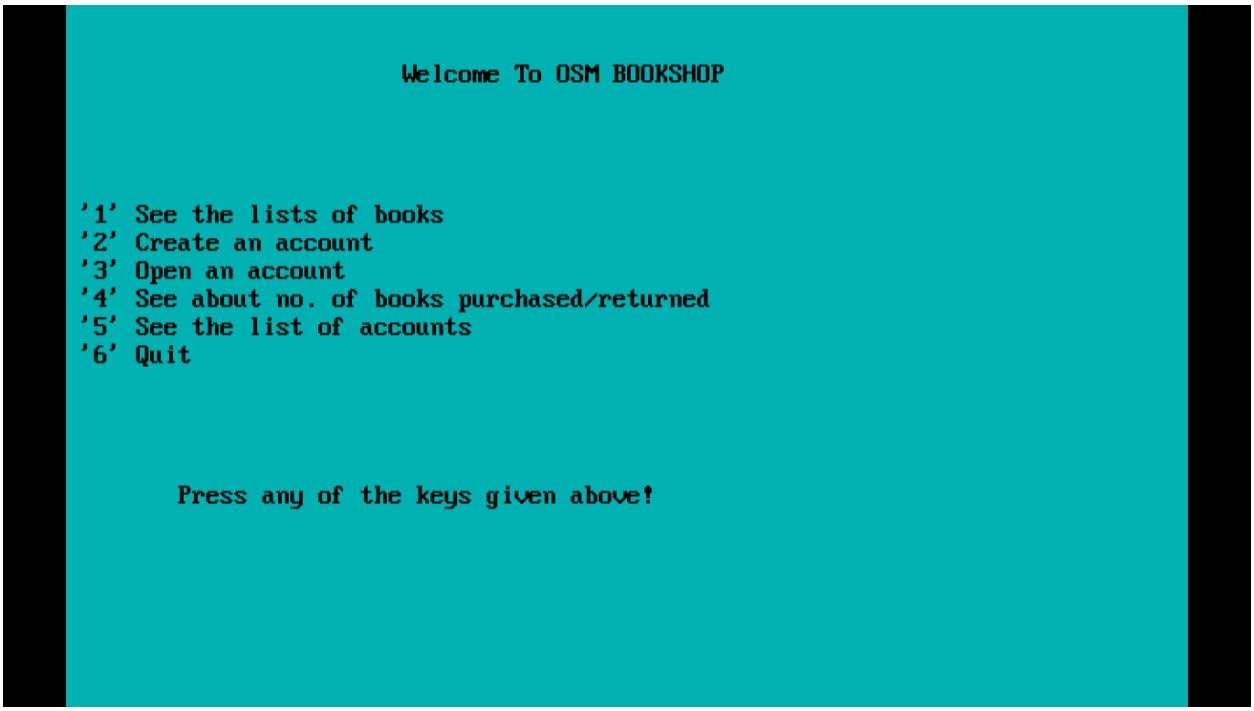
```
 cout<<"\n Do you want to delete your account?(y/n):";
 reply=getch();
 if(reply=='Y'||reply=='y')
 {
  clrscr();
  remove(name);
  cout<<"\n\tYour account is deleted successfully!";
  show2();
  getch();
  namecutter(name);
  return 0;
 }
 else if(reply=='N'||reply=='n')
  goto page3;
 else
  goto page36;
}
else if(reply=='b'||reply=='B')
{
 page3b:
 clrscr();
```

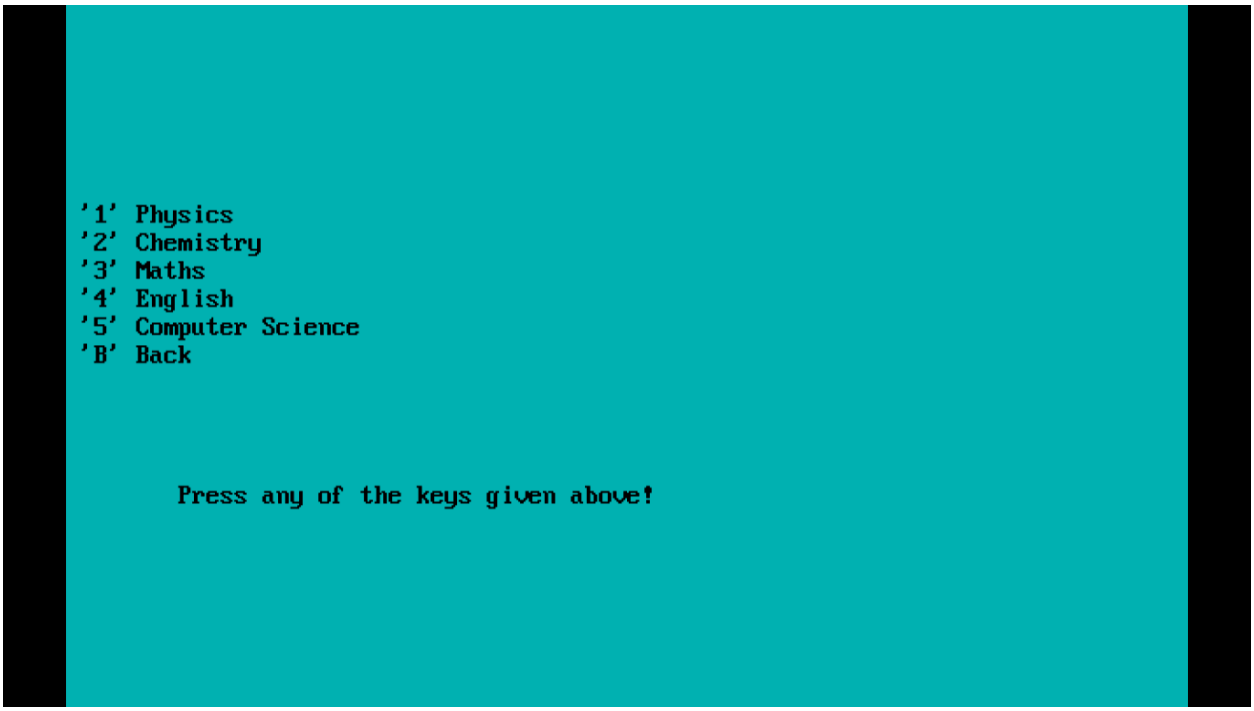
```
  cout<<"\n Do you want to exit from your account?(y/n):";
  reply=getch();
  if(reply=='Y'||reply=='y')
   return 0;
  else if(reply=='N'||reply=='n')
   goto page3;
  else
   goto page3b;
 }
 else
  goto page3;
}
void uppercase(char *a)
{
 for(int i=0;a[i]!='\0';i++)
 {
  a[i]=toupper(a[i]);
 }
}
void showuserlist()
{
```

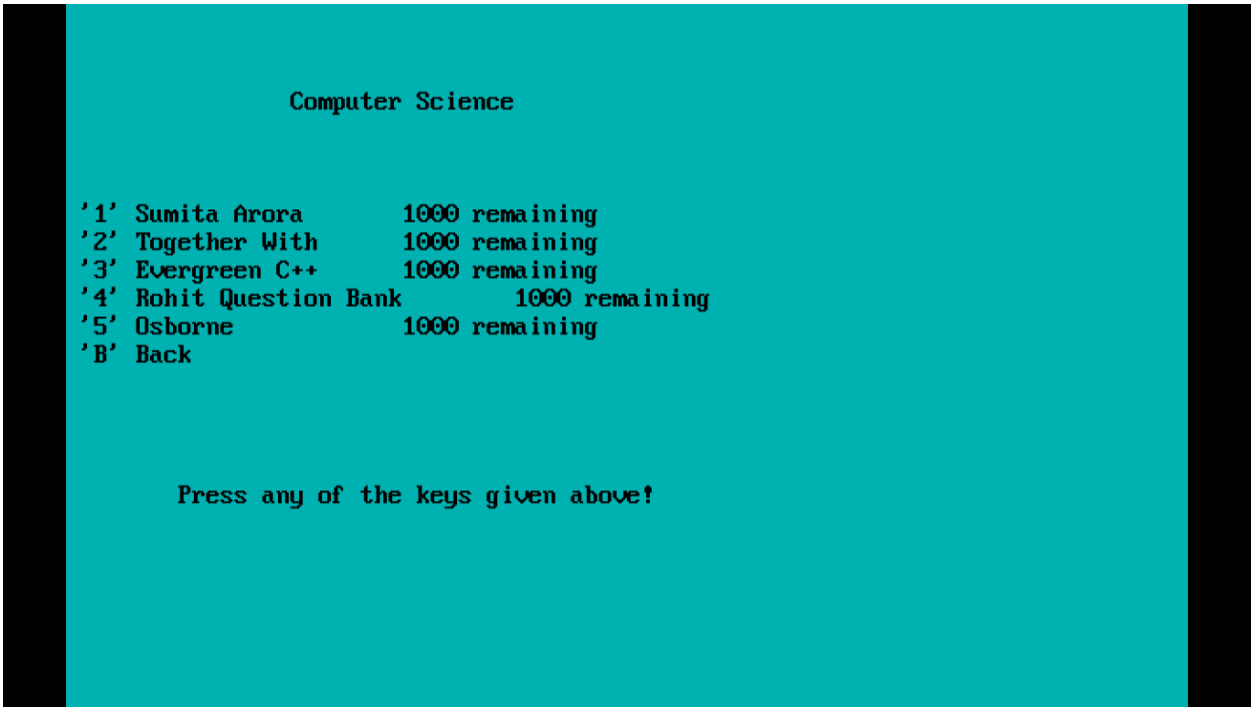
```
 clrscr();
 int i;
 userlist list;
 ifstream fi("USERLIST");
 fi.read((char *) &list,sizeof(list));
 fi.close();
 for(i=0;i<list.no;i++)
 {
  cout<<"\n "<<i+1<<". "<<list.users[i];
 }
 show2();
 getch();
}
void namecutter(char name[])
{
 userlist u;
 char temp[50];
 int i;
 ifstream fi("USERLIST");
 fi.read((char *) &u,sizeof(u));
 fi.close();
```

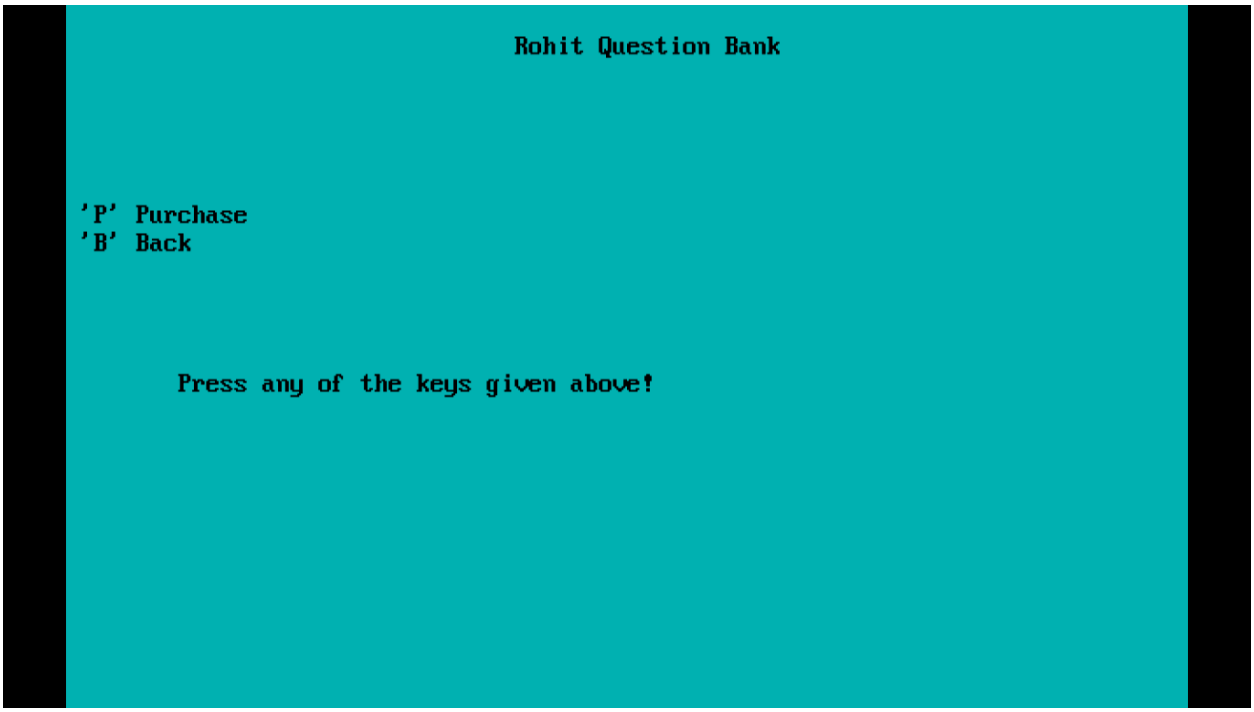
```
for(i=0;i<u.no-1;i++)
{
 if(strcmp(u.users[i],name)==0)
 {
  strcpy(temp,u.users[i]);
  strcpy(u.users[i],u.users[i+1]);
  strcpy(u.users[i+1],temp);
 }
}
u.no--;
ofstream fo("USERLIST");
fo.write((char *) &u,sizeof(u));
fo.close();
}
```

OUTPUT


Welcome To OSM BOOKSHOP
'1' See the lists of books
'2' Create an account
'3' Open an account
'4' See about no. of books purchased/returned
'5' See the list of accounts
'6' Quit
Press any of the keys given above!

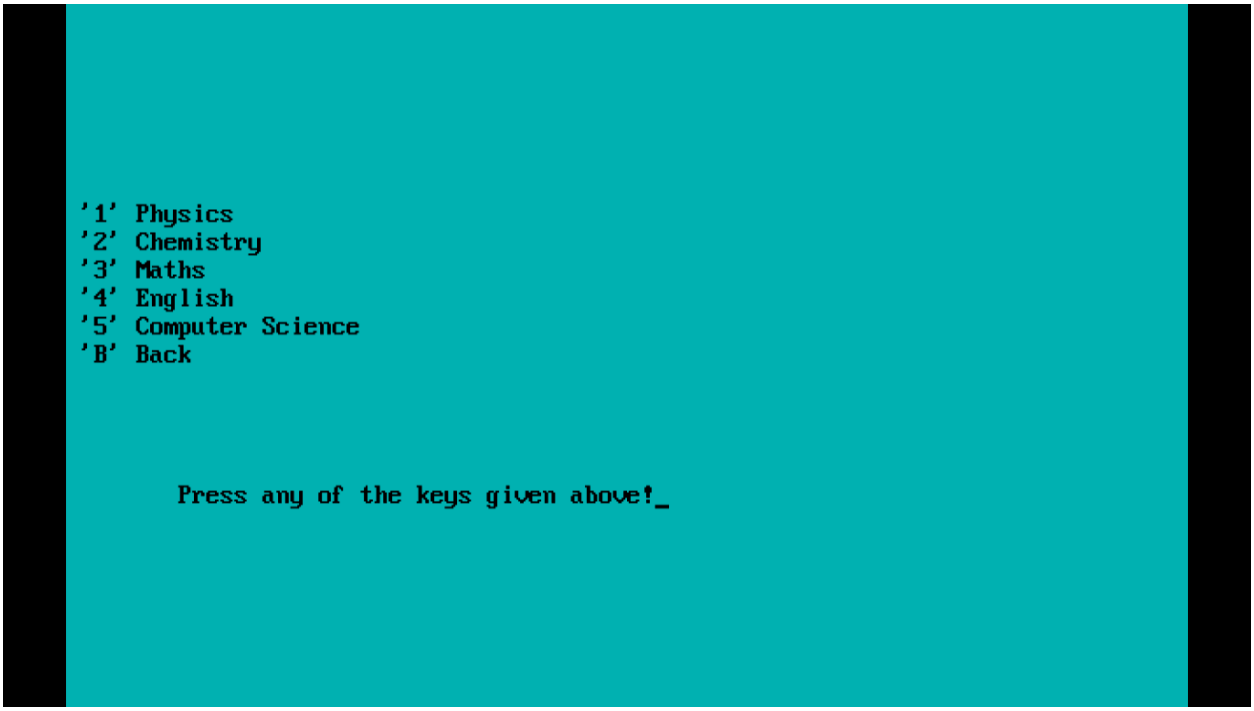

'1' Physics
'2' Chemistry
'3' Maths
'4' English
'5' Computer Science
'B' Back
Press any of the keys given above!

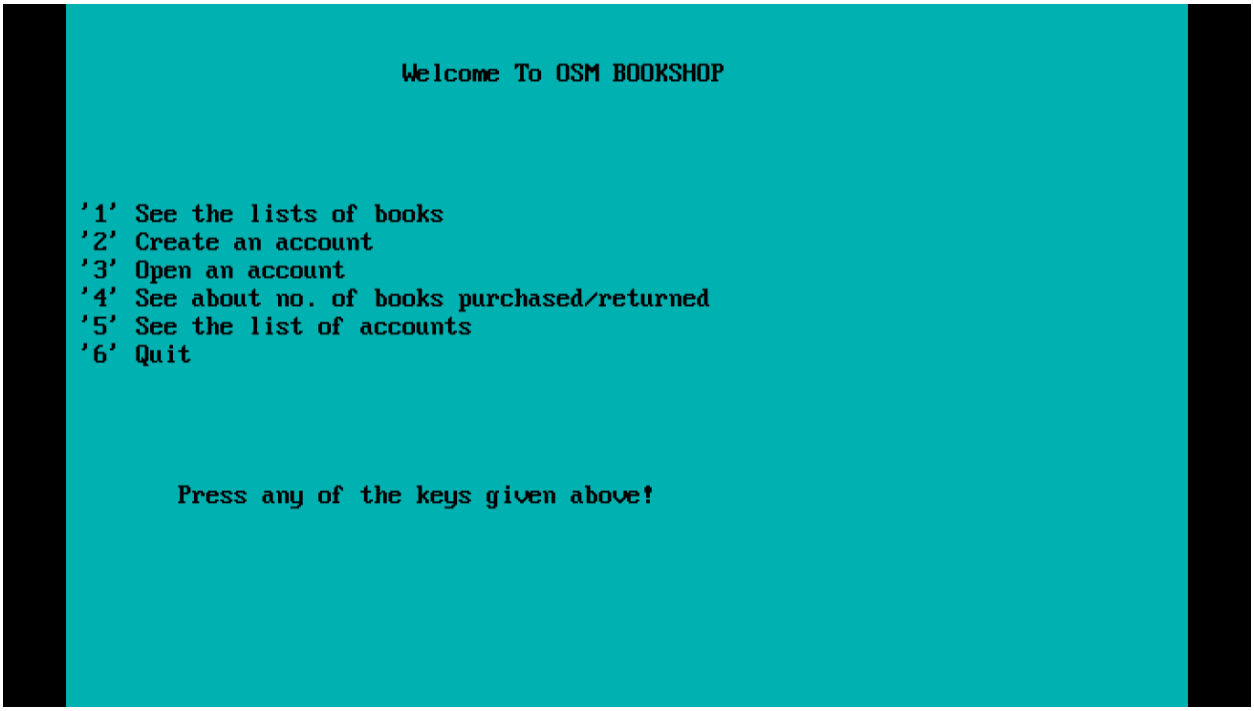

Computer Science
'1' Sumita Arora 1000 remaining
'2' Together With 1000 remaining
'3' Evergreen C++ 1000 remaining
'4' Rohit Question Bank 1000 remaining
'5' Osborne 1000 remaining
'B' Back
Press any of the keys given above!


Rohit Question Bank
'P' Purchase
'B' Back
Press any of the keys given above!

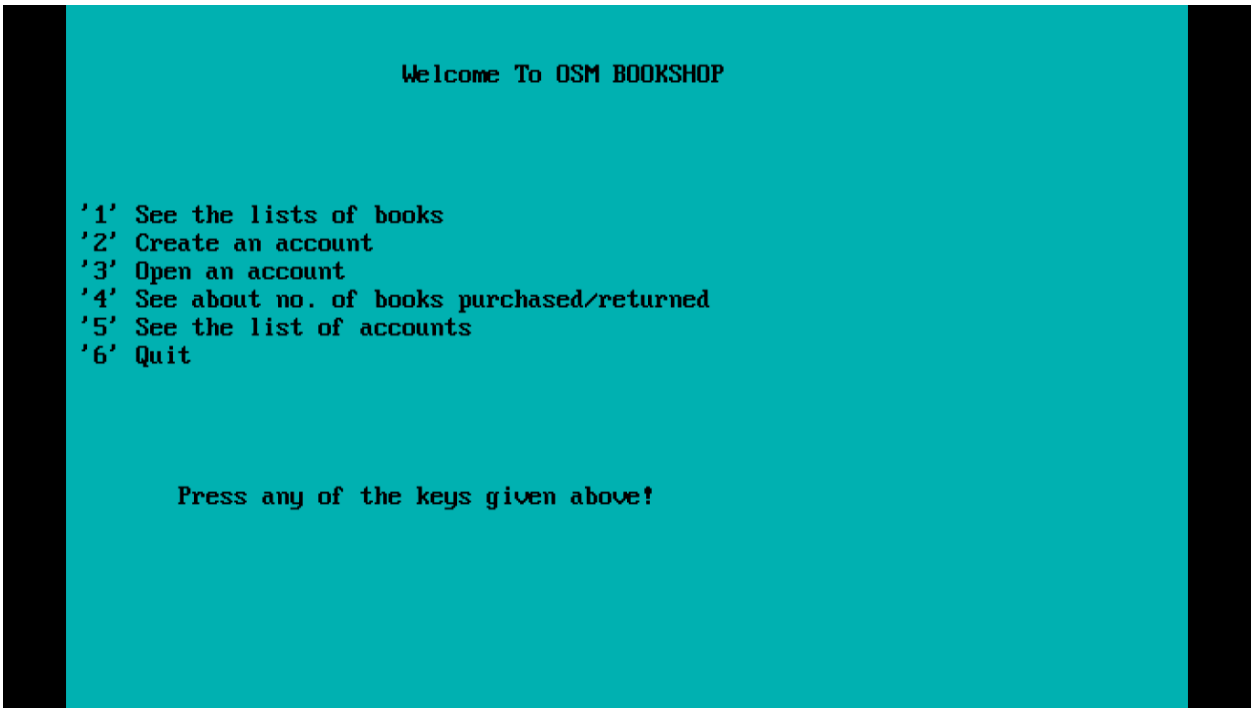
```
Thank you for your purchasing this book. Next time you must create
an account so that you can purchase more than one book and also can
return books purchased from this shop.
```

```
                Computer Science


'1' Sumita Arora        1000 remaining
'2' Together With       1000 remaining
'3' Evergreen C++       1000 remaining
'4' Rohit Question Bank          999 remaining
'5' Osborne             1000 remaining
'B' Back



      Press any of the keys given above!
```


'1' Physics
'2' Chemistry
'3' Maths
'4' English
'5' Computer Science
'B' Back
Press any of the keys given above!_

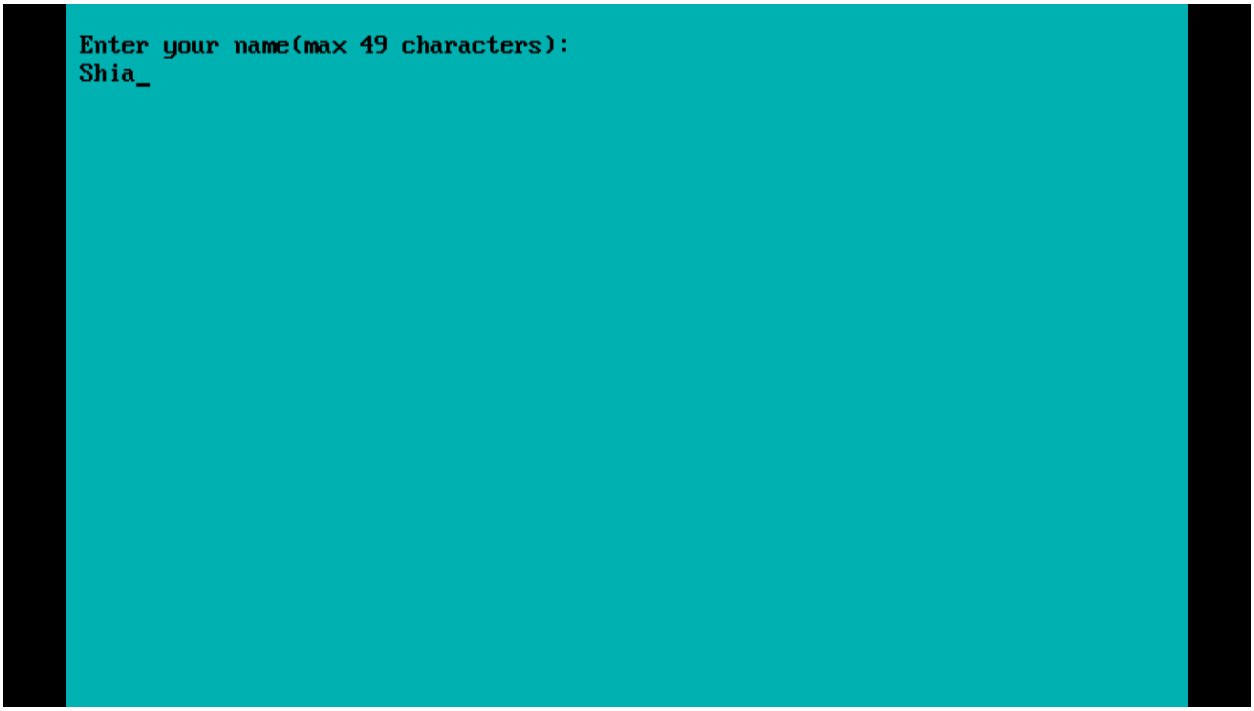

Welcome To OSM BOOKSHOP
'1' See the lists of books
'2' Create an account
'3' Open an account
'4' See about no. of books purchased/returned
'5' See the list of accounts
'6' Quit
Press any of the keys given above!


Subject Purchased Returned
1. Physics 6 0
2. Chemistry 0 0
3. Maths 0 0
4. English 1 0
5. Computer Science 1 0
6. Total 8 0
Press any key to back!_

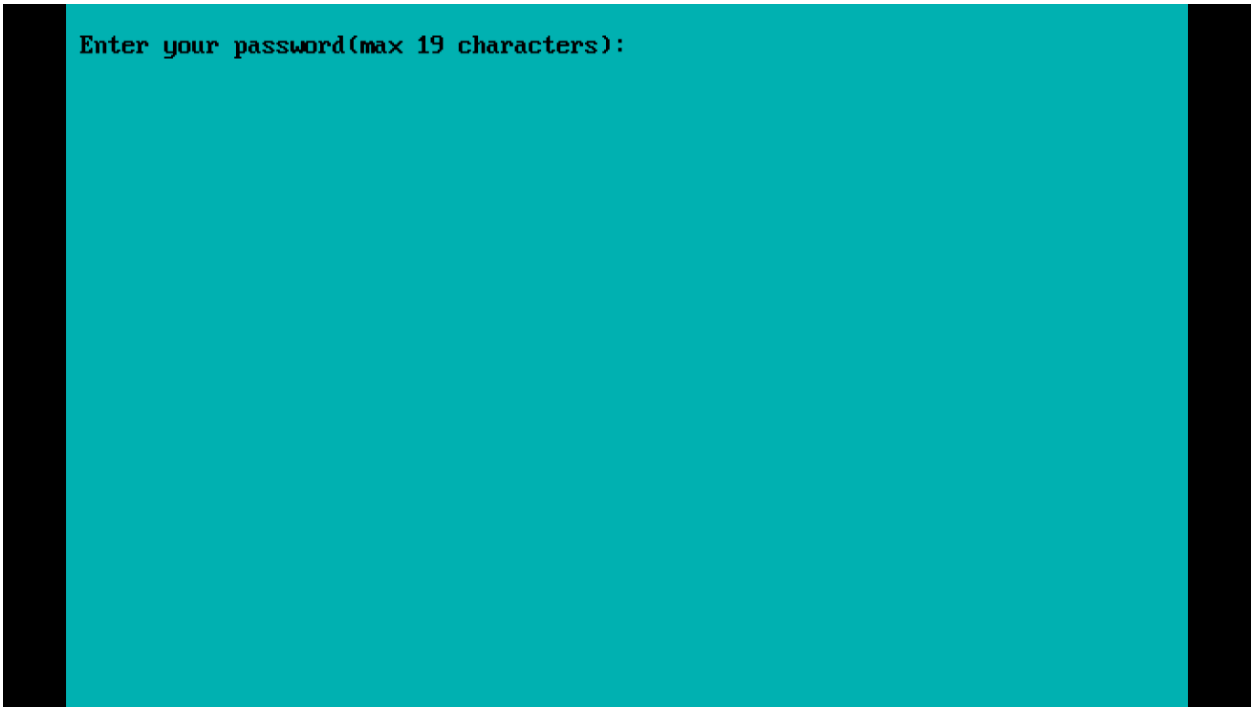

Welcome To OSM BOOKSHOP
'1' See the lists of books
'2' Create an account
'3' Open an account
'4' See about no. of books purchased/returned
'5' See the list of accounts
'6' Quit
Press any of the keys given above!

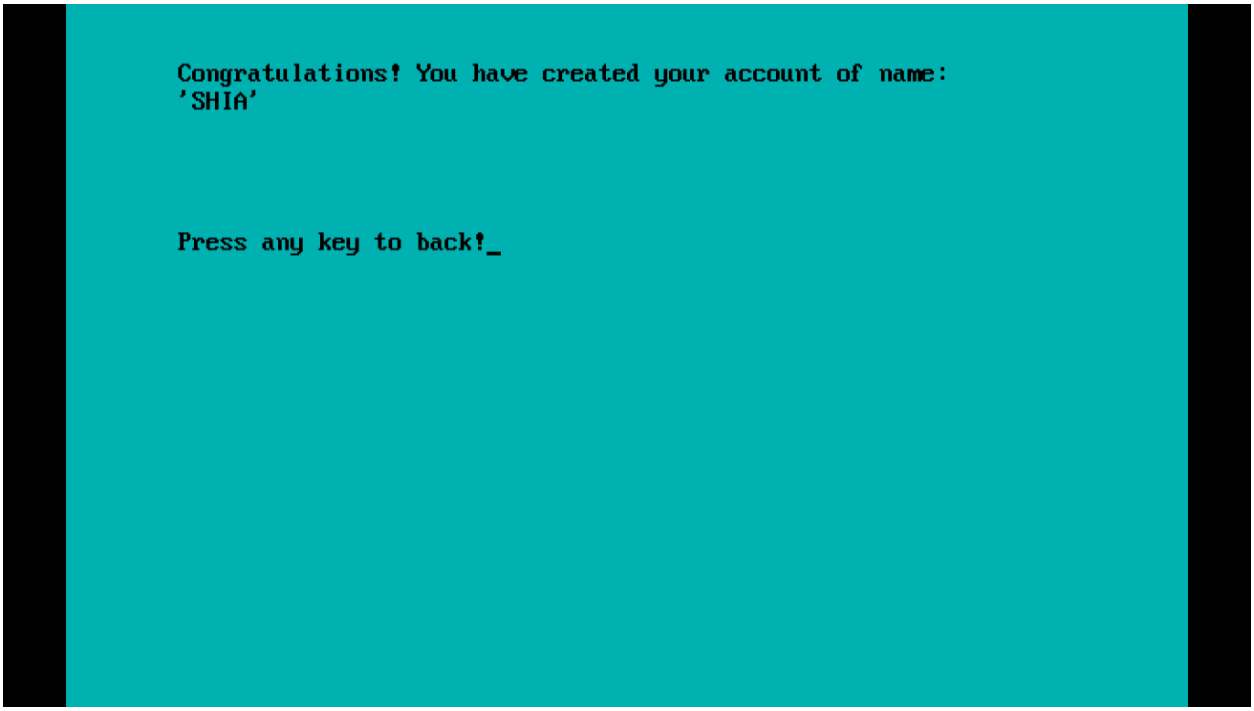
```
1. HELLO
2. HEY
3. MARY



      Press any key to back!_
```

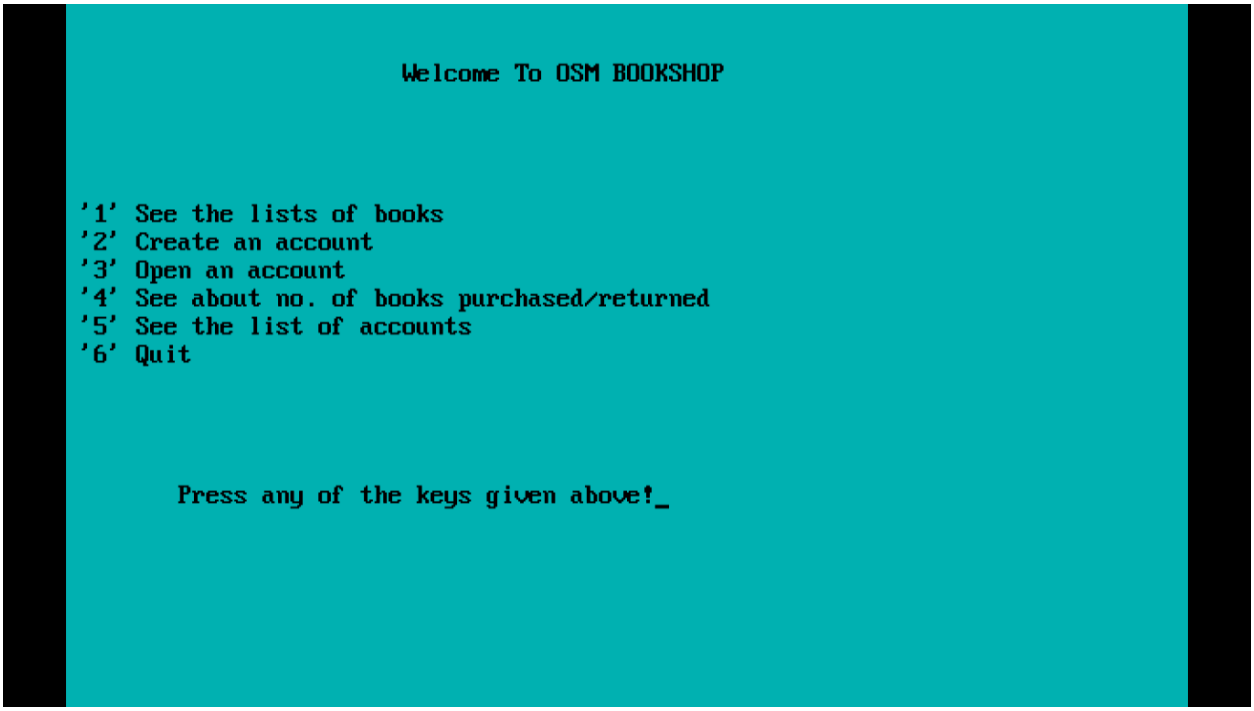
```
                    Welcome To OSM BOOKSHOP



'1' See the lists of books
'2' Create an account
'3' Open an account
'4' See about no. of books purchased/returned
'5' See the list of accounts
'6' Quit



      Press any of the keys given above!
```


Enter your name(max 49 characters):
Shia_

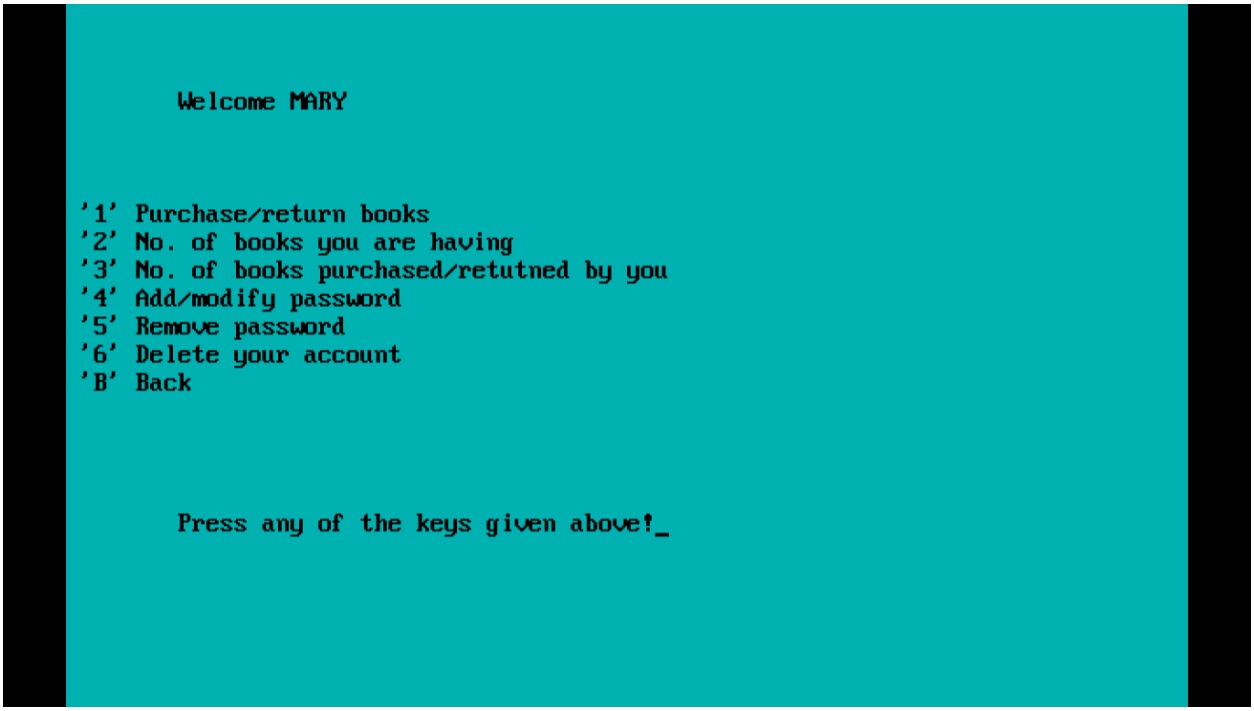

Do you want to add a password? (y/n):

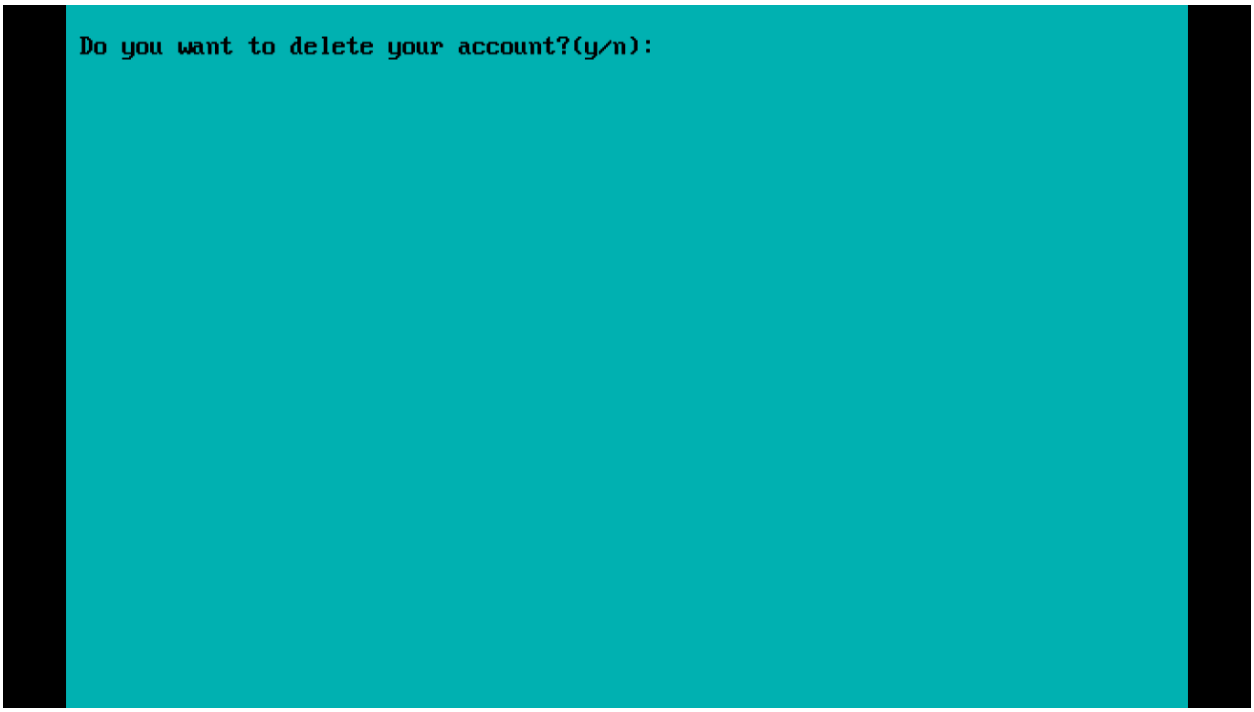

Enter your password(max 19 characters):


Congratulations! You have created your account of name:
'SHIA'
Press any key to back!_


Welcome To OSM BOOKSHOP
'1' See the lists of books
'2' Create an account
'3' Open an account
'4' See about no. of books purchased/returned
'5' See the list of accounts
'6' Quit
Press any of the keys given above!_

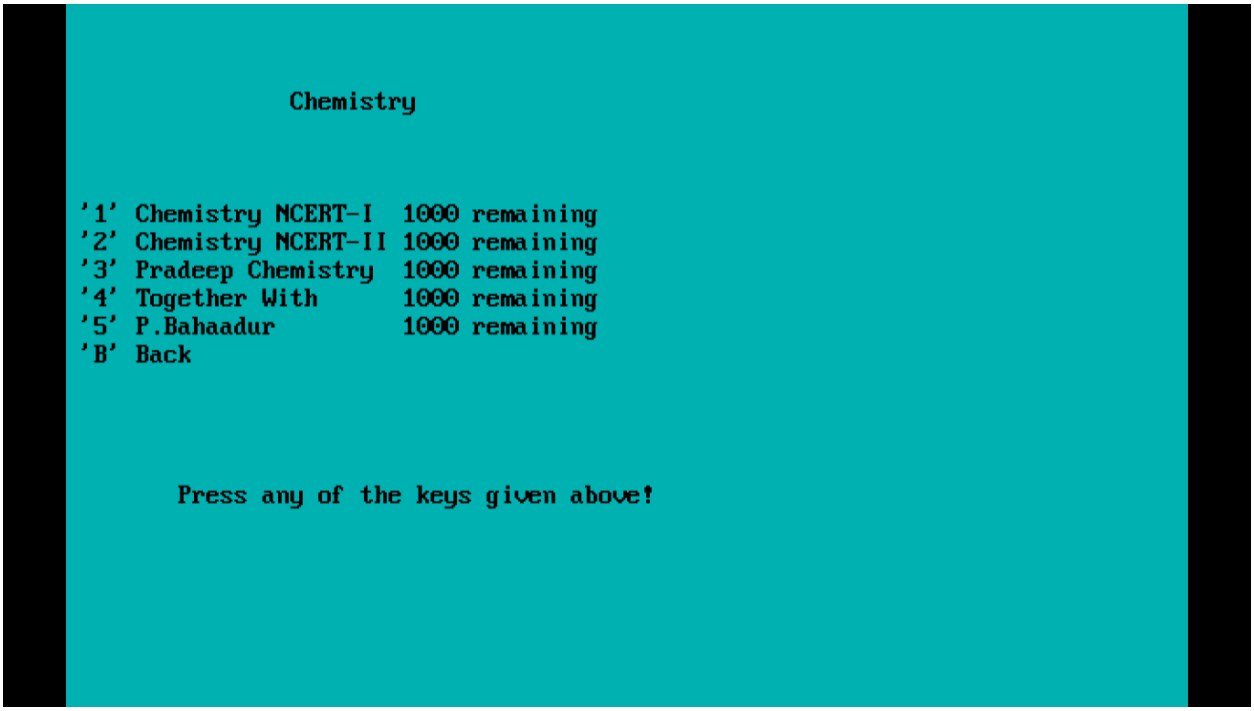

Enter your account name:
Hey_

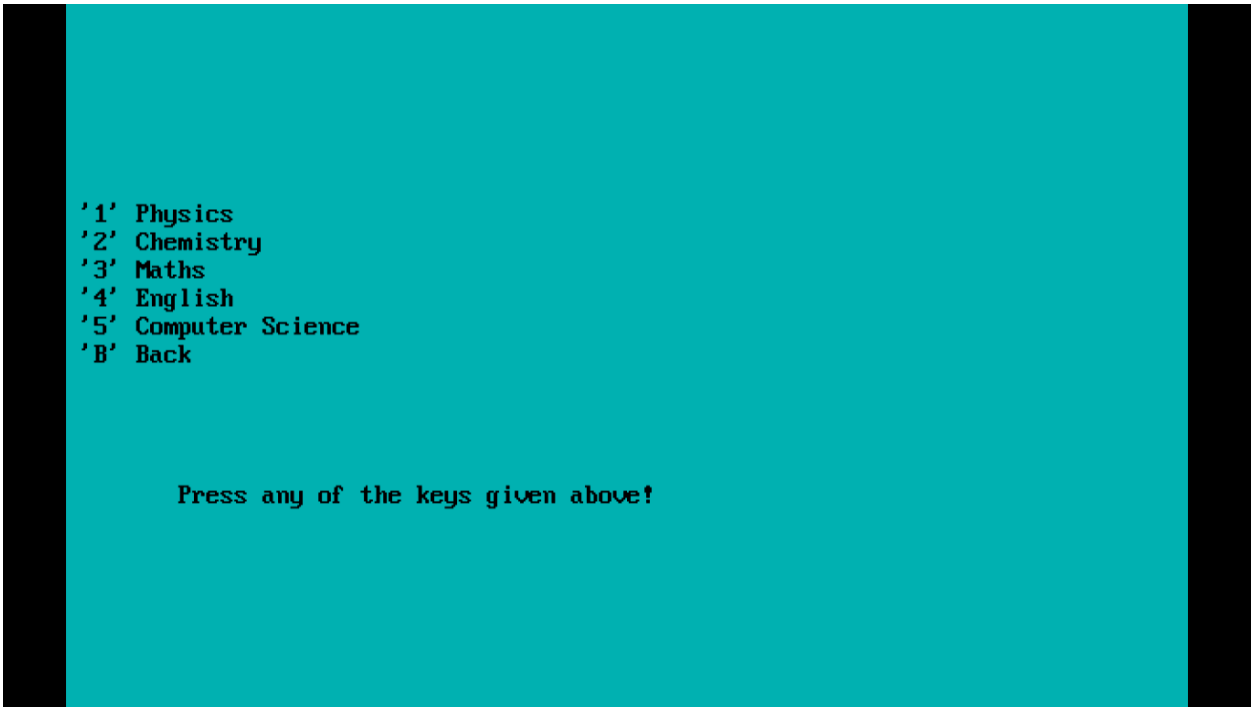

Welcome MARY
'1' Purchase/return books
'2' No. of books you are having
'3' No. of books purchased/retutned by you
'4' Add/modify password
'5' Remove password
'6' Delete your account
'B' Back
Press any of the keys given above!_

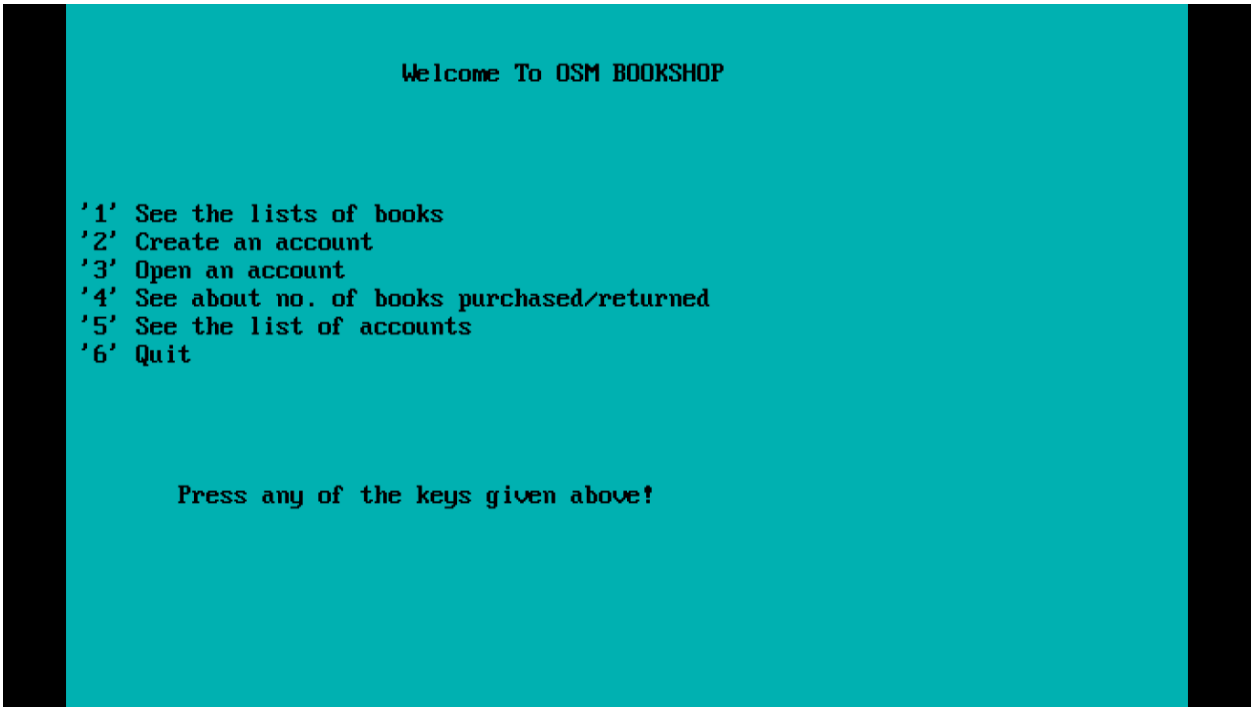

Do you want to delete your account?(y/n):

```
Your account is deleted successfully!


Press any key to back!
```

```
'1' Physics
'2' Chemistry
'3' Maths
'4' English
'5' Computer Science
'B' Back


Press any of the keys given above!
```


Chemistry
'1' Chemistry NCERT-I 1000 remaining
'2' Chemistry NCERT-II 1000 remaining
'3' Pradeep Chemistry 1000 remaining
'4' Together With 1000 remaining
'5' P.Bahaadur 1000 remaining
'B' Back
Press any of the keys given above!


'1' Physics
'2' Chemistry
'3' Maths
'4' English
'5' Computer Science
'B' Back
Press any of the keys given above!


Welcome To OSM BOOKSHOP
'1' See the lists of books
'2' Create an account
'3' Open an account
'4' See about no. of books purchased/returned
'5' See the list of accounts
'6' Quit
Press any of the keys given above!

CONCLUSION

In the completion of this project, we have used different concepts of C++. We used do while loop, for loop, switch case, if statements, binary file operations, built in function like exit (0) and user defined functions.

BIBLIOGRAPHY

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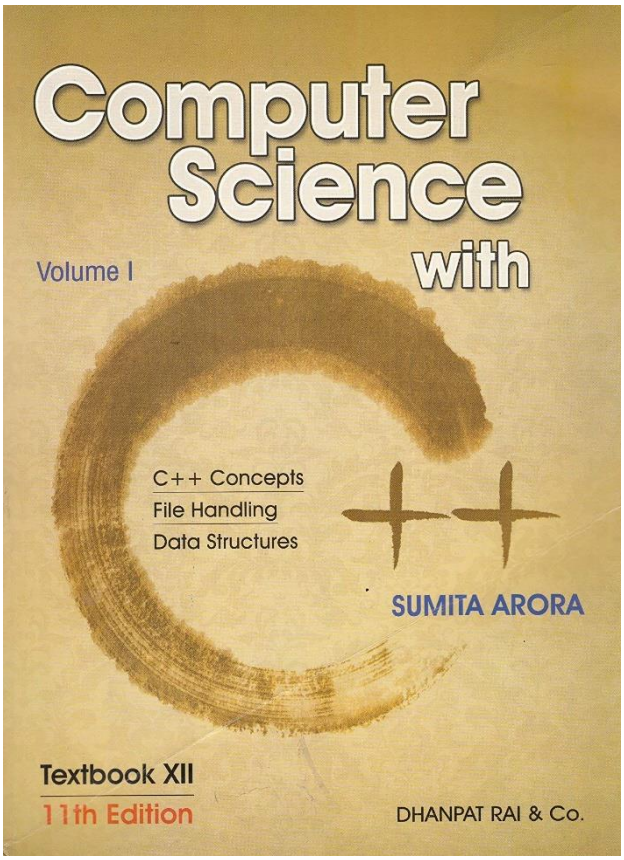

- https://www.programmingsimplified.com/c/dos.h/delay
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