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**Computer Science Project:
Music Library Management**

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CERTIFICATE

This is to certify that the project work is a Bonafide work done by _____ of _____ Roll No. _____ for fulfilment of the requirement of practical examination and project in the subject of Computer Science during 2018-19.

The Project work was carried out under the supervision of Mr. Ashok Bist and certified.

The work recorded here is not a part of any thesis or dissertation or compiled from any other sources.

Subject Teacher

Principal

Examiner

School Stamp

ACKNOWLEDGEMENT

The blessings of our Param Poojya Swamiji has always helped us to strive for excellence, ever and always.

I would also like to thank our principal Mr. R. P. Maurya under whose able hand we got the opportunity to display our skills.

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Not to forget, Mr. Ashok Bist, our computer science teacher, without whom, this project could not have been dreamt of.

Finally, a special thanks to my Project partner Adam Suratwala, my Family and my Friends who always helped me level up.

Introduction

Life is one grand, sweet song, so start the music –
Ronald Reagan.

Keeping in mind the above statement of the former US President, my partner and I created this music library management program. It helps customers to make a rental on their own while maintaining the records of the library.

This program can be used by anyone who visits the library as it is simple, self-directing and easy to use.

With some modifications, it can also be used for any library management.

C++ Concepts Used

Primary objective of C++ is OOP, which stands for Object Oriented Programming and it has the following basic concepts:

- 1) **Data Abstraction** refers to the act of representing essential features without including the background details or explanations.
- 2) **Encapsulation** is the wrapping of data and operations/ functions (that operate on the data).
- 3) **Modularity** is the property of a system that has been decomposed into a set of cohesive and loosely coupled modules.
- 4) **Inheritance** is the capability of one class of things to inherit capabilities or properties from another class.
- 5) **Polymorphism** is the ability for a message or data to be processed in more than one form.

Header Files

We have used the following header files for our program:

- 1) `iostream.h` : `cout`, `cin`
- 2) `conio.h` : `clrscr ()`, `getch ()`, `gotoxy ()`
- 3) `fstream.h` : `open ()`, `read ()`, `write ()`
- 4) `ctype.h` : `toupper ()`
- 5) `stdlib.h` : `randomize ()` and `system ()`
- 6) `string.h` : `strcpy ()`
- 7) `stdio.h` : `gets ()`, `puts ()`
- 8) `dos.h` : extracting current date from system

Some in built functions we have used are:

1. `gotoxy ()` : To reach the specified position on the output screen using x and y coordinates.
2. `clrscr ()` : To clear the output screen.
3. `toupper ()` : To convert all the characters in a char variable to uppercase.
4. `randomize ()` : To create a random number in the specified range of integers.
5. `strcpy ()` : To copy a value of one string to another.
6. `gets ()` : To input a string.
7. `puts ()` : To print a string.

(Note: In C++, string means an array of char variables.)

Data Files Used

We have created and used the following data **Files** in our program:

- 1) Cas.txt : A data file to store all the information about Cassettes in the music library, including their code, name, number, and daily rent.
- 2) Bill.txt : A data file to store the bill number of all bills issued till now along with the codes of cassettes issued.

Classes & Their Members

□ We have used the following classes in our program:

1. Class **Cassettes**:

DATA MEMBERS	MEMBER FUNCTIONS
Int CasCode	DisplayCasList ()
char CasName [30]	Show (int)
Int TotalCas	Display (int)
float DailyRent	CalTotal (int [])
	IncCasNo (int)
	GetCasCode ()
	DecCasNo ()

- i. DisplayCasList () : To show the cassette list to the buyer.
- ii. Show () : To bring the cassette details from the file to the program.
- iii. Display () : To show the selected cassettes to the buyer before proceeding to checkout.
- iv. CalTotal () : To calculate the total daily rent of the selected cassettes by the user.
- v. GetCasCode () : It returns the required Cassette Code.
- vi. DecCasNo () : To decrease the number of Cassettes in the file at the time of issue.
- vii. IncCasNo () : To increase the number of Cassettes in the file after returning.

2. Class **Rent**:

DATA MEMBERS	MEMBER FUNCTIONS
No Data Members	MakeBill (int []) PrintBill (int [], float) Renting () Return ()

- i. MakeBill() : Asks confirmation regarding the cassettes and number of days for the issue.
- ii. PrintBill() : Prints the final bill showing date, issued cassettes and final charges.
- iii. Renting () : Asking the buyer regarding the number of cassettes to be issued and which ones to be issued.
- iv. Return () : To return the issued Cassettes and invoke IncCasNo() function.

3. Class **Bill**:

DATA MEMBERS	MEMBER FUNCTIONS
Int BillNo	GetBillNo ()
Int CCode [5]	Increase (int)
	InitBill (int, int [])

- i. GetBillNo() : Returns required Bill Number from the file 'Bill.txt.'
- ii. Increase () : Reads the corresponding Cassettes' Code to Bill Number from 'Bill.txt' and increases the number in 'Cas.txt.'

- iii. InitBill() : Store the value of Bill Number generated and Cassette Codes in the file 'Bill.txt.'

4. Class **Admin**:

DATA MEMBERS	MEMBER FUNCTIONS
No Data Members	Password () AdminMenu () Add () Delete () Modify ()

- i. Password () : Public member function to check the identity of administrator through password.
- ii. AdminMenu () : Function to call respective functions as per the choice of administrator.
- iii. Add () : Function to add records to 'Cas.txt' file.
- iv. Modify () : Function to modify records of 'Cas.txt' file.
- v. Delete () : Function to delete record as per given Cassettes Code from 'Cas.txt' file.

Source File

```
1  #include<iostream.h>
2  #include<fstream.h>
3  #include<string.h>
4  #include<stdio.h>
5  #include<conio.h>
6  #include<ctype.h>
7  #include<stdlib.h>
8  #include<dos.h>
9
10 class Cassettes
11 {
12     public:
13         void GetData();
14         void Modify();
15         void DisplayCasList();
16         void Show( int i );
17         void Display( int TCasCode );
18         float CalTotal( int TCasCode[5] );
19         void IncCasNo( int TCasCode );
20         int GetCasCode()
21     {
22         return CasCode;
23     }
24     void DecCasNo()
25     {
26         TotalCas -= 1;
27     }
28     Cassettes()
29     {
30         CasCode = 0;
31         strcpy( CasName, "A" );
32         TotalCas = 0;
33         DailyRent = 0.0 ;
34     }
35     private:
36         int CasCode;
37         char CasName[30];
38         int TotalCas;
39         float DailyRent;
40 };
41
42 class Rent
43 {
44     void MakeBill( int TCasCode[5] );
45     void PrintBill( int TCasCode[5], float n );
46     public:
47         void Renting();
48         void Return();
49 };
50
```

```

51 class Bill
52 {
53     int BillNo;
54     int CCode[5];
55 public:
56     int GetBillNo()
57     {
58         return BillNo;
59     }
60     void Increase( int TBillNo );
61     void InitBill( int TBillNo, int TCCode[5] );
62 };
63

```

```

64 class Admin
65 {
66     void AdminMenu();
67     void Add();
68     void Modify();
69     void Delete();
70 public:
71     void Password();
72 };
73

```

```

74 void Cassettes :: GetData()
75 {
76     cout<< "\n\tCas Code      : ";
77     cin>> CasCode;
78     cout<< "\n\tCas Name      : ";
79     gets( CasName );
80     cout<< "\n\tTotal no of Cas : ";
81     cin>> TotalCas;
82     cout<< "\n\tCas Daily Rent  : ";
83     cin>> DailyRent;
84 }
85

```

```

86 void Cassettes :: Modify()
87 {
88     cout<< "\n\tEnter New Details : \n";
89     char TCasName[30];
90     int TTotalCas = 0;
91     float TDailyRent = 0.0;
92     cout<< "\n\tCassette Name      : ";
93     gets( TCasName );
94     cout<< "\tNumber of Cassettes : ";
95     cin>> TTotalCas;
96     cout<< "\tDaily Rent          : ";
97     cin>> TDailyRent;
98     strcpy( CasName, TCasName );
99     TotalCas = TTotalCas;
100     DailyRent = TDailyRent;
101 }
102

```

```

103 void Cassettes :: DisplayCasList( void )
104 {
105     clrscr();
106     int j = 0;
107     Cassettes C[10];
108     ifstream F;
109     gotoxy (21,1);
110     cout<< ">>> List of Cassettes in Our Music Library <<<\n\n";

```

```

111     for( int x = 0; x < 40; x++ )
112         cout<< "--";
113     gotoxy (3,5);
114     cout<< "Cassette Code";
115     gotoxy (22,5);
116     cout<< "Cassette Name";
117     gotoxy (40,5);
118     cout<< "No. of Cassettes";
119     gotoxy (61,5);
120     cout<< "Daily Rent (in Rs.)\n";
121     for( int y = 0; y < 40; y++ )
122         cout<< "--";
123     F.open( "Cas.txt", ios::in );
124     F.seekg( 0, ios::beg );
125     for( int i = 0; i < 10; i++ )
126     {
127         j = i + 7;
128         F.read( ( char * ) & C[i], sizeof( C[i] ) );
129         C[i].Show( j );
130     }
131     F.close();
132     cout<< endl;
133     for( int z = 0; z < 40; z++ )
134         cout<< "--";
135 }
136

```

```

137 void Cassettes :: Show( int j )
138 {
139     gotoxy (8,j);
140     cout<< CasCode;
141     gotoxy (23,j);
142     puts( CasName );
143     gotoxy (48,j);
144     cout<< TotalCas;
145     gotoxy (69,j);
146     cout<< DailyRent;
147 }
148

```

```

149 void Cassettes :: Display( int TCasCode )
150 {
151     ifstream F;
152     F.open( "Cas.txt", ios::in );
153     F.seekg( 0, ios::beg );
154     while( !F.eof() )
155     {
156         F.read( ( char * ) this, sizeof( Cassettes ) );
157         if( TCasCode == CasCode )
158         {
159             cout<< "\n\tName      : ";
160             puts( CasName );
161             cout<< "\tDaily Rent : "<< DailyRent;
162             break;
163         }
164         else if( TCasCode == 0 )
165             continue;
166     }
167     F.close();
168 }
169

```

```

170 float Cassettes :: CalTotal( int TCasCode[5] )
171 {
172     long Pos;
173     float total = 0;
174     fstream F;
175     F.open( "Cas.txt", ios::in | ios::out | ios::app );
176     F.seekg( 0, ios::beg );
177     for( int i = 0; i < 5; i++ )
178     {
179         while( !F.eof() )
180         {
181             Pos = F.tellg();
182             F.read( ( char * ) this, sizeof( Cassettes ) );
183             if( TCasCode[i] == GetCasCode() )
184             {
185                 total += DailyRent;
186                 DecCasNo();
187                 F.seekg( Pos );
188                 F.write( ( char * ) this, sizeof( Cassettes ) );
189             }
190             else if( TCasCode[i] == 0 )
191                 continue;
192         }
193     }
194     F.close();
195     return total;
196 }
197

```

```

198 void Cassettes :: IncCasNo( int TCasCode )
199 {
200     long Pos;
201     fstream F;
202     F.open( "Cas.txt", ios::in | ios::out | ios::app );
203     F.seekg( 0 );
204     while( !F.eof() )
205     {
206         Pos = F.tellg();
207         F.read( ( char * ) this, sizeof( Cassettes ) );
208         if( TCasCode == GetCasCode() )
209         {
210             TotalCas+=1;
211             F.seekg( Pos );
212             F.write( ( char * ) this, sizeof( Cassettes ) );
213             break;
214         }
215     }
216     F.close();
217 }

```

```

218
219 void Rent :: Renting()
220 {
221     clrscr();
222     int N;
223     char ch;
224     int TCasCode[5];
225     Cassettes C;
226     C.DisplayCasList();
227     cout<< "\n\tEnter the number of Cassettes which you want to Rent ( Maximum 5 ) : ";
228     cin>> N;
229     cout<< "\n\tEnter the Cassette Codes which you want to Rent :\n ";

```

```

230     for( int i = 0; i < N; i++ )
231     {
232         again1:
233         cout<< "\t";
234         cin>> TCasCode[i];
235         if( TCasCode[i] >= 0 && TCasCode[i] <= 10 )
236             continue;
237         else
238         {
239             cout<< "\t\tPlease enter a VALID character.\n";
240             goto again1;
241         }
242     }
243     for( int j = N; j <= 5; j++ )
244         TCasCode[j] = 0;
245     again2:
246     cout<< "\tConfirm ? (Y or N) ... ";
247     cin>> ch;
248     ch = toupper( ch );
249     if( ch == 'Y' )
250         MakeBill( TCasCode );
251     else if( ch == 'N' )
252         cout<< " \t\t\tThanks For Visiting.\n";
253     else
254     {
255         cout<< "\t\tPlease enter a VALID character.\n";
256         goto again2;
257     }
258 }
259

```

```

260 void Rent :: MakeBill( int TCasCode[5] )
261 {
262     clrscr();
263     Cassettes C;
264     char ch;
265     char c;
266     float n;
267     gotoxy (4,4);
268     cout<< "You have selected the following Cassettes to Issue : \n\n";
269     for( int i = 0; i < 5; i++ )
270         C.Display( TCasCode[i] );
271     again1:
272     cout<< "\n\n\tProceed To Checkout ? (Y/N) ... ";
273     cin>> ch;
274     ch = toupper( ch );
275     if( ch == 'Y' )
276     {
277         again2:
278         cout<< "\n\tEnter the no. of Days you want to take the cassettes : ";
279         cin>> n;
280         if( n > 0 && n <= 31 )
281             PrintBill( TCasCode, n );
282         else
283         {
284             cout<< "\tPlease enter a VALID number.\n";
285             goto again2;
286         }
287     }
288     else if( ch == 'N' )
289     {
290         cout<< "\n\tPlease try again.\n";
291         Renting();
292     }

```



```

293     else
294     {
295         cout<< "\tEnter a VALID character.";
296         goto again1;
297     }
298 }
299

```

```

300 void Rent :: PrintBill( int TCasCode[5], float n )
301 {
302     clrscr();
303     int d1 = 0, m1 = 0, y1 = 0;
304     struct date x;
305     getdate( &x );
306     d1 = x.da_day;
307     m1 = x.da_mon;
308     y1 = x.da_year;
309     int d = d1, m = m1, y = y1;
310     for( float i = 1; i <= n; i++ )
311     {
312         d += 1;
313         if( m == 12 )
314             if( d > 31 )
315             {
316                 y += 1;
317                 m = 1;
318                 d = 1;
319             }
320         else if( m == 1 || m == 3 || m == 5 || m == 7 || m == 8 || m == 10 )
321             if( d > 31 )
322             {
323                 m += 1;
324                 d = 1;
325             }
326         else if( m == 4 || m == 6 || m == 9 || m == 11 )
327             if( d > 30 )
328             {
329                 m += 1;
330                 d = 1;
331             }
332         else if( m == 2 )
333         {
334             if( y % 100 != 0 && y % 4 == 0 && y % 100 == 0 && y % 400 == 0 )
335                 if( d > 29 )
336                 {
337                     m += 1;
338                     d = 1;
339                 }
340             else
341                 if( d > 28 )
342                 {
343                     m += 1;
344                     d = 1;
345                 }
346         }
347     }

```

```

348     randomize();
349     int TBill = 0;
350     TBill = random( 900 ) + 100;
351     Bill B;
352     ofstream F;
353     F.open( "Bill.txt", ios::out | ios::app );
354     B.InitBill( TBill, TCasCode );

```

```

355     F.write( ( char * ) & B, sizeof( B ) );
356     F.close();
357     float total = 0;
358     float sum = 0;
359     Cassettes C;
360     gotoxy (35,2);
361     cout<< "BASS BOOSTED";
362     gotoxy (60,4);
363     cout<< "Date : "<< d1<< "-"<< m1<< "-"<< y1;
364     gotoxy (5,4);
365     cout<< "Bill No. : "<< TBill;
366     gotoxy (5,5);
367     cout<< "Return Date      :  "<< d<< "-"<< m<< "-"<< y;
368     gotoxy (5,7);
369     cout<< "Cassettes Codes :  ";
370     for( int j = 0; j < 5; j++ )
371     {
372         if( TCasCode[j] != 0 )
373             cout<< TCasCode[j]<< ", ";
374         else
375             break;
376     }
377     total = C.CalTotal( TCasCode );
378     gotoxy (5,9);
379     cout<< "Total Daily Rent :  Rs. "<< total;
380     gotoxy (5,10);
381     cout<< "Number of Days   :  "<< n;
382     gotoxy (5,11);
383     cout<< "Safety Charge    :  Rs. 200.0";
384     gotoxy (40,11);
385     cout<< "(At the time of return show the";
386     gotoxy (40,12);
387     cout<< "bill and get safety charge back.)";
388     gotoxy (5,14);
389     cout<< "Total Charges    :  Rs.";
390     sum =( n * total ) + 200;
391     cout<< sum;
392     gotoxy (8,16);
393     cout<< "Please Bring The Hard Copy of This Bill on Return of The Cassette.";
394     gotoxy (32,19);
395     cout<< "Thank You For Visiting.";
396 }
397

```

```

398 void Rent :: Return()
399 {
400     clrscr();
401     Bill B;
402     int TBill, Temp = 0;
403     again:
404     gotoxy (55,3);
405     cout<< "0 - Exit.";
406     gotoxy (5,3);
407     cout<< "Enter Your Bill No. : ";
408     cin>> TBill;
409     ifstream F;
410     F.open( "Bill.txt", ios::in );
411     F.seekg( 0, ios::beg );
412     while( !F.eof() )
413     {
414         F.read( ( char * ) this, sizeof( Bill ) );
415         Temp = B.GetBillNo();

```

```

416         if( Temp == TBill )
417         {
418             gotoxy (5,5);
419             cout<< "Please Collect Your Safety Charge. ";
420             B.Increase( TBill );
421             gotoxy (34,7);
422             cout<< "Pleasure Doing Business With You.";
423             gotoxy (45,9);
424             cout<< "Visit Again.";
425         }
426         else if( TBill == 0 )
427             break;
428         else
429         {
430             gotoxy (5,5);
431             cout<< "Sorry, Your Bill No. Does Not Exist!!! Try Again.";
432             gotoxy (5,7);
433             system( "pause" );
434             clrscr();
435             goto again;
436         }
437     }
438     F.close();
439 }
440

```

```

441 void Bill :: Increase( int TBillNo )
442 {
443     long Pos;
444     Cassettes C[5];
445     ifstream F;
446     fstream File;
447     F.open( "Bill.txt", ios::in );
448     File.open( "Cas.txt", ios::in | ios::out | ios::app );
449     for( int i = 0; i < 5; i++ )
450     {
451         F.seekg( 0, ios::beg );
452         while( !F.eof() )
453         {
454             F.read( ( char * ) this, sizeof( Bill ) );
455             if( TBillNo == GetBillNo() )
456             {
457                 C[i].IncCasNo( CCode[i] );
458                 while( !File.eof() )
459                 {
460                     Pos = File.tellg();
461                     File.read( ( char * ) & C[i], sizeof( C[i] ) );
462                     if( C[i].GetCasCode() == CCode[i] )
463                     {
464                         File.seekg( Pos );
465                         File.write( ( char * ) & C[i], sizeof( C[i] ) );
466                         break;
467                     }
468                 }
469                 break;
470             }
471             else
472                 continue;
473         }
474     }
475     F.close();
476     File.close();
477 }
478

```

```

479 void Bill :: InitBill( int TBillNo, int TCCode[5] )
480 {
481     BillNo = TBillNo;
482     CCode[0] = TCCode[0];
483     CCode[1] = TCCode[1];
484     CCode[2] = TCCode[2];
485     CCode[3] = TCCode[3];
486     CCode[4] = TCCode[4];
487 }
488

```

```

489 void Admin :: Password()
490 {
491     clrscr();
492     Cassettes C;
493     char P[6];
494     gotoxy (35,5);
495     cout<< "BASS BOOSTED";
496     gotoxy (32,7);
497     cout<< "Administrator Menu";
498     again:
499     gotoxy (32,10);
500     cout<< "Password : ";
501     for( int i = 0; i < 5; i++ )
502     {
503         P[i] = getch();
504         printf( "*" );
505     }
506     gotoxy (34,13);
507     if( P[0] == 'm' && P[1] == 'u' && P[2] == 's' && P[3] == 'i' && P[4] == 'c' )
508         cout<< "Access Granted.";
509     else
510     {
511         cout<< "Access Aborted.";
512         goto again;
513     }
514     gotoxy (29,20);
515     system( "pause" );
516     AdminMenu();
517 }
518

```

```

519 void Admin :: AdminMenu()
520 {
521     clrscr();
522     int ch;
523     cout<< "\n\n\n\tAdministrator Menu : \n";
524     cout<< "\n\t1 - Add Cassettes.\n";
525     cout<< "\n\t2 - Modify Cassettes.\n";
526     cout<< "\n\t3 - Delete Cassettes.\n";
527     gotoxy (55,5);
528     cout<< "0 - Exit.";
529     again:
530     gotoxy (20,10);
531     cout<< "\n\n\tYour Choice ... ";
532     cin>> ch;
533     gotoxy (29,20);
534     if( ch == 1 )
535         Add();
536     else if( ch == 2 )
537         Modify();
538     else if( ch == 3 )
539         Delete();
540     else if( ch == 0 )
541         system( "pause" );

```

```

542     else
543     {
544         cout<< "\t Enter a VALID character.";
545         goto again;
546     }
547 }
548

```

```

549 void Admin :: Add()
550 {
551     clrscr();
552     Cassettes C;
553     ofstream F;
554     char ch = 'Y';
555     F.open( "Cas.txt", ios::out | ios::app );
556     while( ch != 'N' )
557     {
558         C.GetData();
559         F.write( ( char * ) & C, sizeof( C ) );
560         cout<< "\n\tContinue (Y/N) ... ";
561         cin>> ch;
562         ch = toupper( ch );
563     }
564     F.close();
565     AdminMenu();
566 }
567

```

```

568 void Admin :: Modify()
569 {
570     clrscr();
571     char ch;
572     Cassettes C;
573     fstream F;
574     F.open( "Cas.txt", ios::in | ios::out );
575     int TCasCode;
576     long Pos;
577     char found = 'F';
578     again:
579     cout<< "\n\tEnter Cassettes Code whose record is to be Modified : ";
580     cin>> TCasCode;
581     while( !F.eof() )
582     {
583         Pos = F.tellg();
584         F.read( ( char * ) & C, sizeof( C ) );
585         if( C.GetCasCode() == TCasCode )
586         {
587             C.Modify();
588             F.seekg( Pos );
589             F.write( ( char * ) & C, sizeof( C ) );
590             found = 't';
591             break;
592         }
593     }
594     if( found == 'f' )
595         cout<< "\n\tCassettes not found. Try Again.";
596     cout<< "\n\tContinue (Y/N) ... ";
597     cin>> ch;
598     ch = toupper( ch );
599     if( ch == 'Y' )
600         goto again;
601     F.close();
602     AdminMenu();
603 }
604

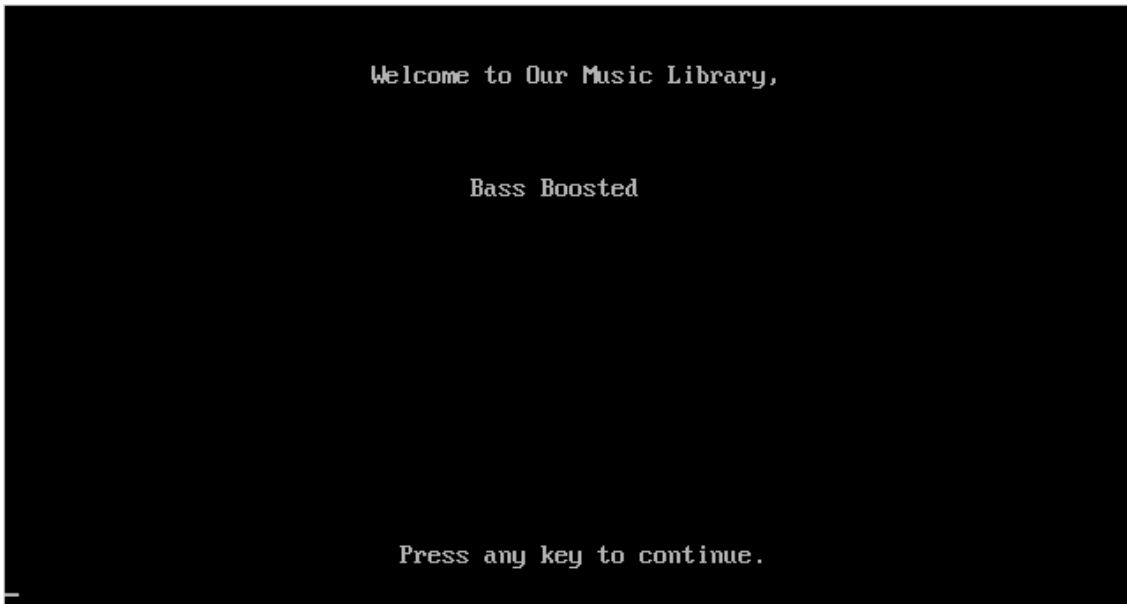
```

```
605 void Admin :: Delete()
606 {
607     clrscr();
608     Cassettes C;
609     char ch;
610     char found = 'f';
611     ifstream F;
612     ofstream File;
613     F.open( "Cas.txt", ios::in );
614     File.open( "Temp.txt", ios::out );
615     int TCasCode;
616     cout<< "\n\tEnter Cassette Code whose record is to be deleted : ";
617     cin>> TCasCode;
618     while( !F.eof() )
619     {
620         F.read( ( char * ) & C, sizeof( C ) );
621         if( C.GetCasCode() == TCasCode )
622         {
623             found = 't';
624             C.Display( TCasCode );
625             cout<< "\n\tConfirm (Y/N) ... ";
626             cin>> ch;
627             ch = toupper( ch );
628             if( ch == 'N' )
629             {
630                 File.write( ( char * ) & C, sizeof( C ) );
631                 break;
632             }
633         }
634         else
635             File.write( ( char * ) & C, sizeof( C ) );
636     }
637     if( found == 'f' )
638         cout<< "\n\tRecord not found.";
639     F.close();
640     File.close();
641     remove( "Cas.txt" );
642     rename( "Temp.txt", "Cas.txt" );
643     AdminMenu();
644 }
645
```

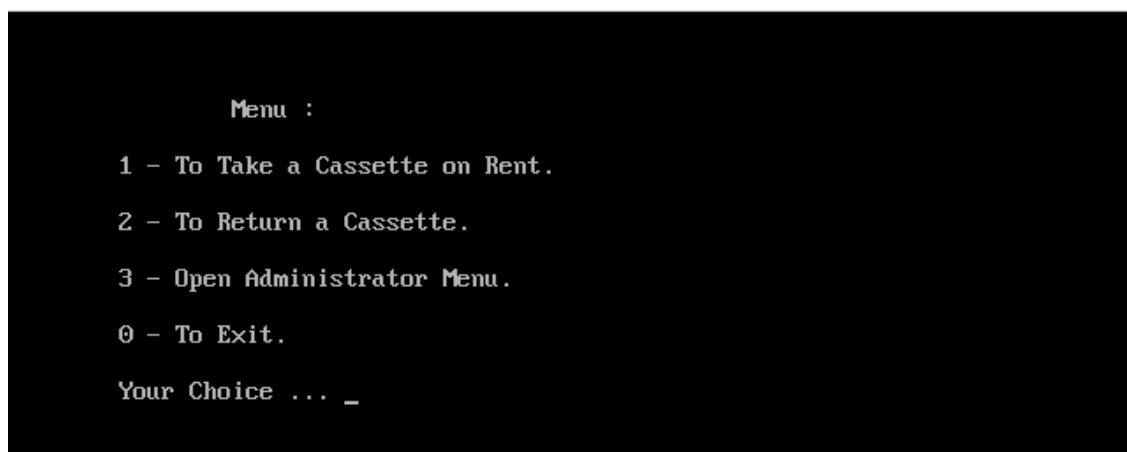
```
646 void main()
647 {
648     clrscr();
649     int ch;
650     Rent R;
651     Admin A;
652     cout<< "\n\n\t\t\t Welcome to Our Music Library,\n\n";
653     cout<< "\n\n\t\t\t\t\t Bass Boosted";
654     gotoxy (29,20);
655     system( "pause" );
656     clrscr();
657     cout<< "\n\n\n\t\tMenu :\n";
658     cout<< "\n\t1 - To Take a Cassette on Rent.\n";
659     cout<< "\n\t2 - To Return a Cassette.\n";
660     cout<< "\n\t3 - Open Administrator Menu.\n";
661     cout<< "\n\t0 - To Exit.\n";
662     again5:
663     cout<< "\n\tYour Choice ... ";
664     cin>> ch;
665     if( ch == 1 )
666         R.Renting();
667     else if( ch == 2 )
668         R.Return();
669     else if( ch == 3 )
670         A.Password();
671     else if( ch == 0 )
672     {
673         gotoxy (36,15);
674         cout<< "Thank You.";
675         gotoxy (33,17);
676         cout<< "Please Visit Again.";
677     }
678     else
679     {
680         cout<< "\tEnter a VALID character.";
681         goto again5;
682     }
683     getch();
684 }
685
```

Glimpses of Our Programme

□ Welcome Page



□ Menu List



□ Cassettes List


```

>>> List of Cassettes in Our Music Library <<<
-----
Cassette Code      Cassette Name      No. of Cassettes      Daily Rent (in Rs.)
-----
1                  EDMs                15                    50
2                  Pop                 15                    50
3                  Classical           15                    40
4                  Americas Best       15                    40
5                  Romantic            15                    40
6                  Jazz                15                    40
7                  Modern              15                    40
8                  Colombian           15                    40
9                  Bollywood           15                    40
10                 Theme Songs         15                    50
-----

Enter the number of Cassettes which you want to Rent ( Maximum 5 ) : 3

Enter the Cassette Codes which you want to Rent :
1
2
3
Confirm ? (Y or N) ... y

```

□ Confirmation for Rent

```

You have selected the following Cassettes to Issue :

Name      : EDMs
Daily Rent : 50
Name      : Pop
Daily Rent : 50
Name      : Classical
Daily Rent : 40

Proceed To Checkout ? (Y/N) ... y

Enter the no. of Days you want to take the cassettes : 5_

```

□ Final Bill

```

                                BASS BOOSTED

Bill No. : 783                                Date : 17-12-2018
Return Date      : 22- 12- 2018

Cassettes Codes  : 1, 2, 3,

Total Daily Rent : Rs. 100
Number of Days   : 5
Safety Charge    : Rs. 200.0      (At the time of return show the
                                   bill and get safety charge back.)

Total Charges    : Rs.700

Please Bring The Hard Copy of This Bill on Return of The Cassette.

                                Thank You For Visiting.

```

□ Returning of Cassettes

```
Enter Your Bill No. : 783                                0 - Exit.  
Please Collect Your Safety Charge.  
  
Pleasure Doing Business With You.  
Visit Again.
```

□ Administrator Login Page

```
BASS BOOSTED  
Administrator Menu  
  
Password : *****  
  
Access Granted.  
  
Press any key to continue.
```

□ Administrator Menu

```
Administrator Menu :                                0 - Exit.  
1 - Add Cassettes.  
2 - Modify Cassettes.  
3 - Delete Cassettes.  
Your Choice ...
```

□ Add Function

```
Cas Code      : 11
Cas Name      : 90's Melodies
Total no of Cas : 15
Cas Daily Rent : 45
Continue (Y/N) ... _
```

□ Delete Function

```
Enter Cassette Code whose record is to be deleted : 11

Name      : Korean BanRock
Daily Rent : 40
Confirm (Y/N) ... _
```

□ Modify Function

```
Enter Cassettes Code whose record is to be Modified : 11

Enter New Details :

Cassette Name      : Korean Rock
Number of Cassettes : 15
Daily Rent         : 40
Continue (Y/N) ... _
```

Bibliography

- For Background image in Introduction:
[mercercognitivepsychology \[licensed for non-commercial use only\] / Music and Memory](#)
- For References to Codes:
 - Computer Science with C++, Class XII, Volume I by Sumita Arora
 - Computer Science with C++, Class XI by Sumita Arora