Practical 3

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- *Imagine a publishing company which does marketing for book and audio cassette versions. Create a class publication that stores the title (a string) and price (type float) of publications. From this class derive two classes: book which adds a page count (type int) and tape which adds a playing time in minutes (type float). Write a program that instantiates the book and tape class, allows user to enter data and displays the data members. If an exception is caught, replace all the data member values with zero values.*

```
// MARETTING COMPANY
#include <iostream>
using namespace std;
// base class publication
class Publication
{
  private:
    string title;
    float price;
  public:
    Publication()
    {
      title = "";
      price = 0.0;
    }
    void getData()
    {
      cout << "---------Enter Details---------"<<endl;
      cout << "Enter Title: "<<endl;
      cin.ignore(); // clear input buffer
      getline(cin, title);
      cout << "Enter Price: "<<endl;
      cin >>price;
    }
    void putData()
    {
      cout << "_________DISPLAY DATA_________"<<endl;
      cout << "Title is: "<<title<<endl;
```

```
        cout << "Price is: "<<price<<endl;
    }
};
class Book : public Publication
{
  private:
    int pageCount;
  public:
    Book()
    {
      pageCount = 0;
    }
    void getData()
    {
      Publication :: getData();
      cout << endl;
      cout << "Enter Page Count: "<<endl;
      cin >> pageCount;
    }
    void putData()
    {
      Publication :: putData();
      try
      {
        if (pageCount < 0)
          throw pageCount;
      }
      catch (int f)
      {
        cout <<" error: page not vaild :"<< f;
        pageCount = 0;
      }
```

```
        cout << "Pages Are: "<<pageCount<<endl;
    }
};
class Tape : public Publication
{
  private:
    float playtime;
  public:
    Tape()
    {
      playtime = 0.0;
    }
    void getData()
    {
      Publication :: getData();
      cout << "Enter play time of Cassette (in minutes): "<<endl;
      cin >> playtime;
    }
    void putData()
    {
      Publication :: putData();
      try
      {
        if (playtime < 0.0)
          throw playtime;
      }
      catch (float R)
      {
        cout << "Error: Invalid Playtime: "<<playtime<<endl;
        playtime = 0.0;
      }
      cout << "Playtime is: "<< playtime<<endl;
```

```
    }
};
int main()  // main program
{
   Book b[10];  // arrray of objects
   Tape t[10];
   int choice = 0, bookCount = 0, tapeCount = 0;

   while (choice != 5)
   {
      cout << "---------MARKETING MENU---------"<<endl;
      cout << "1. Add Book ."<<endl;
      cout << "2. Add Tape ."<<endl;
      cout << "3. Display Book ."<<endl;
      cout << "4. Display Tape ."<<endl;
      cout << "5. Exit ."<<endl;

      cout<<"Enter Choice: "<<endl;
      cin >> choice;

      switch (choice)
      {
         case 1:
         {
            cout<<"------ADDING BOOK DETAILS------"<<endl;
            b[bookCount].getData();
            bookCount++;
            break;
         }
         case 2:
         {
            cout<<"------ADDING TAPE DETAILS------"<<endl;
```

```
            t[tapeCount].getData();
            tapeCount++;
            break;
         }
         case 3:
         {
            cout<<"------BOOK DETAILS------"<<endl;
            for (int j = 0; j < bookCount; j++)
               b[j].putData();
            break;
         }
         case 4:
         {
            cout<<"------TAPE DETAILS------"<<endl;
            for (int j = 0; j < bookCount; j++)
               t[j].putData();
            break;
         }
         case 5:
         {
            cout<<"*********PROGRAM EXITED SUCCESSFULLY*********"<<endl;
            exit(0);
         }
         default:
         {
            cout<<"Invalid Choice !"<<endl;
         }

      }
   }
   return 0;
}
```

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// OUTPUT

```
---------MARKETING MENU---------
1. Add Book .
2. Add Tape .
3. Display Book .
4. Display Tape .
5. Exit .
Enter Choice:
1
------ADDING BOOK DETAILS------
---------Enter Details---------
Enter Title:
INDIA GATE
Enter Price:
999

Enter Page Count:
298
---------MARKETING MENU---------
1. Add Book .
2. Add Tape .
3. Display Book .
4. Display Tape .
5. Exit .
Enter Choice:
2
------ADDING TAPE DETAILS------
---------Enter Details---------
Enter Title:
INDIAN SOLO
Enter Price:
289
Enter play time of Cassette (in minutes):

90
---------MARKETING MENU---------
1. Add Book .
2. Add Tape .
3. Display Book .
4. Display Tape .
5. Exit .
Enter Choice:
3
------BOOK DETAILS------
_________DISPLAY DATA_________
Title is: INDIA GATE
Price is: 999
Pages Are: 298
---------MARKETING MENU---------
1. Add Book .
2. Add Tape .
3. Display Book .
4. Display Tape .
5. Exit .
Enter Choice:
4
------TAPE DETAILS------
_______DISPLAY DATA_______
Title is: INDIAN SOLO
Price is: 289
Playtime is: 90
---------MARKETING MENU---------
1. Add Book .
2. Add Tape .
3. Display Book .
4. Display Tape .
5. Exit .
Enter Choice:
5
*********PROGRAM EXITED SUCCESSFULLY*********
```