- **Source Code**

```
/*
Practical - 3
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
*/

#include<iostream>
#include<string>
using namespace std;

class publication{
    private:
        string title;
        float price;

    public:

        void getdata(){
            cin.ignore();
            cout << "\nEnter title of publication : ";
            getline(cin,title);
            try{
                if(title.empty()){
                    throw title;
                }
            }catch(string s){
                cout << "\nInvalid title !\n";
                title = "NULL";
            }

            cout << "\nEnter price of publication : ";
            cin >> price;
            try{
                if(price <= 0){
                    throw price;
                }
            }catch(float f){
                cout << "\nInvalid price !\n";
                price = 0.0;
            }
        }
        void putdata(){
            cout << "\nPublication Title : " << title;
            cout << "\nPublication Price : " << price;
        }
};

class book : public publication{
    private:
        int pagecount;
    public:
        void getdata(){
            publication::getdata();
            cout << "\nEnter book page count : ";
            cin >> pagecount;
            try{
                if(pagecount <= 0){
                    throw pagecount;
                }
            }catch(int e)
            {
                cout << "\nInvalid page count !\n";
                pagecount = 0;
            }
        }
        void putdata(){
            publication::putdata();
            cout << "\nBook page count : " << pagecount << endl;
        }
};

class tape : public publication{
    private:
        float ptime;
    public:
        void getdata(){
            publication::getdata();
            cout << "\nEnter tape's playing time(in min) : ";
            cin >> ptime;
            try{
                if(ptime <= 0){
                    throw ptime;
                }
            }catch(float e)
            {
                cout << "\nInvalid play time !\n";
                ptime = 0.0;
            }
        }
        void putdata(){
            publication::putdata();
            cout << "\nTape's playing time : " << ptime << endl;
        }
};

int main(){
    book b;
    tape t;

    cout << "\n\n\n---------- Enter Book Details ----------\n";
    b.getdata();
    cout << "\n\n---------- Enter Tape Details ----------\n";
    t.getdata();

    cout << "\n========== Book Details ==========\n";
    b.putdata();
    cout << endl;
    cout << "\n========== Tape Details ==========\n";
    t.putdata();
    return 0;
}
```

- **Output**

```
---------- Enter Book Details ----------

Enter title of publication : Ikigai

Enter price of publication : 350

Enter book page count : 208


---------- Enter Tape Details ----------

Enter title of publication : Atomic Habits

Enter price of publication : 700

Enter tape's playing time(in min) : 320


========== Book Details ==========

Publication Title : Ikigai
Publication Price : 350
Book page count : 208


========== Tape Details ==========

Publication Title : Atomic Habits
Publication Price : 700
Tape's playing time : 320
```

//(In case of exception)

```
---------- Enter Book Details ----------

Enter title of publication :
Invalid title !

Enter price of publication : 560

Enter book page count : -34
Invalid page count !


---------- Enter Tape Details ----------

Enter title of publication :
Invalid title !

Enter price of publication : 0
Invalid price !

Enter tape's playing time(in min) : -560
Invalid play time !



========== Book Details ==========

Publication Title : NULL
Publication Price : 560
Book page count : 0



========== Tape Details ==========

Publication Title : NULL
Publication Price : 0
Tape's playing time : 0
```