**Task 2: Book, EBook, AudioBook, PaperBook (50 mark)**

See the following class diagram of **Book**, **ElectronicBook**, **AudioBook**, & **PaperBook** and implement inheritance relationship of classes in C++.

You need to implement following items for each class;

1. Constructors
2. Setters
3. Getters
4. Member Methods



Following class diagrams are showing complete detail of above mentioned classes.









**#include**<iostream>

**#include**<string>

using **namespace** std;

**class** Book{

protected:

    string AuthorName;

    string Isbn;

    int numberofpages;

    float price;

    string title;

public:

    Book(){

        AuthorName**=**"Tony gaddies";

        Isbn**=**"xyz";

        numberofpages**=**500;

        price**=**5000;

        title**=**"starting out with c++";

    }

    Book(string a,float p,string t){

        AuthorName**=**a;

        price**=**p;

        title**=**t;

    }

    Book(string a, string i, int n, float p, string t){

        AuthorName**=**a;

        Isbn**=**i;

        numberofpages**=**n;

        price**=**p;

        title**=**t;

    }

    void setter(){

        cout<<"\*\*\*\*\*\*\*Well to MYBOOK store\*\*\*\*\*\*\*\*\*" << endl;

        cout<<"Please enter title of book: ";

        getline(cin, title);

        cout<<"Author Name: ";

        getline(cin, AuthorName);

        cout<<"ISBN: ";

        getline(cin, Isbn);

        cout<<"Number of Pages: ";

        cin>>numberofpages;

        cout<<"Price: ";

        cin>>price;

        cout<<endl;

    }

    void getter(){

        cout<<endl;

        cout<<"Book: " << endl;

        cout<<"TITLE: " << title << endl;

        cout<<"Author Name: " << AuthorName << endl;

        cout<<"ISBN: " << Isbn << endl;

        cout<<"Number of Pages: " <<numberofpages << endl;

        cout<<"Price: " << price << endl;

    }

};

**class** EBook :public Book{

public:

    string downloadURL;

    float sizeMB;

public:

    EBook(){

        downloadURL**=**"";

        sizeMB**=**0.0;

    }

    EBook(string a, string t, float p, float s){

        AuthorName**=**a;

        price**=**p;

        title**=**t;

        sizeMB**=**s;

    }

    EBook(string a, string i, int n, float p, string t, float s){

        AuthorName**=**a;

        Isbn**=**i;

        numberofpages**=**n;

        price**=**p;

        title**=**t;

        sizeMB**=**s;

    }

    void setter(){

        cout << "\*\*\*\*\*\*\*\*\*\*For EBook\*\*\*\*\*\*\*" << endl;

        cout << "please enter Size of book in MBs :";

        cin >> sizeMB;

        cout << "please enter download URL: ";

        getline(cin, downloadURL);

        cout << endl;

    }

    void getter(){

        cout << endl;

        cout << "\*\*\*\*\*\*\*EBOOK\*\*\*\*\*\*\*" << endl;

        cout << "Download URL: "<<downloadURL << endl;

        cout << "Size of book in MB: " << sizeMB << endl;

    }};

**class** PaperBook :public Book

{

private:

    int numberofcopies;

    float weight;

public:

    PaperBook(){

        numberofcopies**=**0;

        weight**=**0.0;

    }

    PaperBook(string t, string a, float p, float no){

        AuthorName**=**a;

        price**=**p;

        title**=**t;

        numberofcopies**=**no;

    }

    PaperBook(string t, string a, float p, float i, int  n, int no, float Wig){

        AuthorName**=**a;

        Isbn**=**i;

        numberofpages**=**n;

        price**=**p;

        title**=**t;

        numberofcopies**=**no;

        weight**=**Wig;

    }

    void setter(){

        cout << "\*\*\*\*\*\*For Paper Book\*\*\*\*\*" << endl;

        cout << "please enter number of copies: ";

        cin>>numberofcopies;

        cout <<"please enter Weight of book: ";

        cin>>weight;

        cout<<endl;

    }

    void getter(){

        cout << endl;

        cout << "\*\*\*\*\*\*\*\*\*PaperBook\*\*\*\*\*\*\* \n"<<endl;

        cout << "Number of Copies: "<<numberofcopies<< endl;

        cout << "Weight :" << weight<<endl;

    }

};

**class** AudioBook :public Book

{

private:

    int playTime;

public:

    AudioBook(){

    playTime **=** 0;

    }

    AudioBook(string t, string a, float p, int pt){

        AuthorName **=** a;

        price**=**p;

        title**=**t;

        playTime**=**pt;

    }

    AudioBook(string t, string a, float p, string i, int n, int pt){

        AuthorName **=** a;

        price **=** p;

        title **=** t;

        Isbn **=** i;

        numberofpages**=**n;

        playTime**=**pt;

    }

    void setter(){

        cout << "\*\*\*\*\*\*\*\*\*For AUDIO Book\*\*\*\*\*\*\*\*\*" << endl;

        cout << "Please enter play Time in minutes: ";

        cin >> playTime;

        cout << endl;

}

    void getter(){

        cout << endl;

        cout << "\*\*\*\*\*\*AUDIOBOOK\*\*\*\*\*\*\*\*" << endl;

        cout << "Playing Time: " << playTime << endl;

    }

};

int main(){

    EBook E1;

    E1.Book::setter();

    E1.setter();

    PaperBook P1;

    P1.setter();

    AudioBook A1;

    A1.setter();

    cout << "\n\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" << endl;

    E1.Book::getter();

    E1.getter();

    P1.getter();

    A1.getter();

    cout << endl;

    system("pause");

**return** 0;