

Assignment No 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;
//base class publication
class publication
{
private:
string title;
float prices;
public:
publication()
{
title="";
prices=0.0;
}
void get_data()
{
cout<<"\nEnter Title :";
cin.ignore();//clear input buffer
getline(cin,title);
cout<<"\nEnter Price : ";
cin>>prices;
}
void put_data()
{
cout<<"\n _____ \n";
cout<<"\n Information : " <<endl;
cout<<"\n Title : "<<title;
cout<<"\n Price : "<<prices;
}
};
```

```

class book: public publication
{
private:
int pages;
public:
book(){
pages=0;
}
void get_data()
{
publication::get_data();
cout<<endl;
cout<<"Enter Page Count : \n";
cin>>pages;
}
void put_data()
{

try{
if(pages==0)
throw pages;}
catch(int f)
{
cout<<"\n error: pages not valid : "<<f;
pages=0;
}

cout<<"\n Pages Are : "<<pages;
publication::put_data();
}
};

class tape: public publication
{
private:
float playtime;
public:
tape()
{
playtime=0.0;
}
void get_data()
{
publication::get_data();

```

```

cout<<"Enter Play Time Of Cassette \n";
cin>>playtime;
}
void put_data()
{

try
{
if(playtime==0.0)
throw playtime;
}
catch(float r)
{
cout<<"\n Error: Invalid Playtime : "<<playtime;
playtime=0.0;
}
cout<<"\n Playtime is : "<<playtime;
publication::put_data();
}
};
int main()//main program
{
book b[10];// array of objects
tape t[10];
int choice=0,bookCount=0,tapeCount=0;
cout<<"-----";
do
{
cout<<"\n 1. Add book ";
cout<<"\n 2. Add tape: ";
cout<<"\n 3. Display book ";
cout<<"\n 4. Display tape";
cout<<"\n 5. Exit:"<<endl;
cout<<"\n Enter Choice : ";
cin>>choice;
switch(choice)
{
case 1:
{
cout<<"\n-----\n";
cout<<"Add Book: \n";
b[bookCount].get_data();
bookCount++;

```

```

    break;
}
case 2:
{
    cout<<"\n-----\n";
    cout<<"Add Tape: \n";
    t[tapeCount].get_data();
    tapeCount++;
    break;
}
case 3:
{
    cout<<"\n (books)";
    for(int j=0;j<bookCount;j++)
    {
        b[j].put_data();
    }
    break;
}
case 4:
{
    cout<<"\n (tape)";
    for(int j=0;j<tapeCount;j++)
    {
        t[j].put_data();
    }
    break;
}
case 5:
{
    cout<<"*****Program Exited Successfully*****"<<endl;
    exit(0);

}
default:
{
    cout<<"\n Invalid";
}
}
}
while(choice!=5);
return 0;
}

```

Output:

1. Add book
2. Add tape:
3. Display book
4. Display tape
5. Exit:

Enter Choice : 1

Add Book:

Enter Title :OOP

Enter Price : 200

Enter Page Count :

100

1. Add book
2. Add tape:
3. Display book
4. Display tape
5. Exit:

Enter Choice : 2

Add Tape:

Enter Title :C++

Enter Price : 300

Enter Play Time Of Cassette

30

1. Add book

2. Add tape:

3. Display book

4. Display tape

5. Exit:

Enter Choice : 3

(books)

Information :

Title :OOP

Price :200

Pages Are :100

1. Add book

2. Add tape:

3. Display book

4. Display tape

5. Exit:

Enter Choice : 4

1. Add book

2. Add tape:

3. Display book

4. Display tape

5. Exit:

Enter Choice : 2

Add Tape:

Enter Title :ee

Enter Price : 67

Enter Play Time Of Cassette

0.0

1. Add book

2. Add tape:

3. Display book

4. Display tape

5. Exit:

Enter Choice : 4

(tape)

Error: Invalid Playtime : 0

Playtime is : 0

Information :

Title :ee

Price :67

1. Add book
2. Add tape:
3. Display book
4. Display tape
5. Exit:

Enter Choice :