/*

Title:-Imagine a publishing company which does marketing for book and audiocassette versions. Create a class publication that stores the title (a string) and price (type float) of a publication. 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 classes, allows user to enter data and displays the data members. If an exception is caught, replace all the data member values with zero values.

Roll No:-

Class:-SE Computer

Sub:-OOPL & CGL

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**/

Note:-

- ✓ **Use of flush-**
  https://www.geeksforgeeks.org/buffer-flush-means-c/

- ✓ **Use of cin.ignore() Function-**
  https://www.tutorialspoint.com/what-is-the-use-of-cin-ignore-in-cplusplus#:~:text=The%20cin.,The%20problem%20is%20like%20below.

- ✓ **Use of getline() function-**
  https://www.geeksforgeeks.org/getline-string-c/#:~:text=The%20C%2B%2B%20getline()%20is,the%20delimiting%20character%20is%20encountered.

- ✓ **Use of Exception Handling-**
  https://www.tutorialspoint.com/cplusplus/cpp_exceptions_handling.htm

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Program-

```
#include<iostream>
#include<cstring>
#include<exception>
using namespace std;

class publication{
        protected:
```

```cpp
                string title;
                float price;
        public:
                publication(string t = "No title", float p = 0.0)
                {
                title=t;
                price=p;
                }

};

class books:public publication
{
        int pages;
        public:
        books(string t="No title",float p= 0.0, int pa = 0):publication(t,p)
                {
                pages=pa;
                }
                void getb()
                {
                        cout<<"Enter the datails of the book :"<<endl;
                        cout<<"Enter the title of the book :"<<endl;
                        cin>>title;
                        //cin.ignore(1,'\n');
                        //getline(cin,title);
                        cout<<"Enter the price of the book :"<<endl;
                        cin>>price;
                        cout<<"Enter the pages of the book :"<<endl;
                        cin>>pages;

        try
        {
                if(pages > 500 && pages <1500)
                {
                        if(price >100 && price < 2000)
                        {
                                displayb();
                        }
                }
                else throw(pages);
        }
        catch(int i){
                        cout<<"Caught exception in function of book"<<endl;
                        cout<<"You entered an invalid data"<<endl;
                        title = "0";
```

```cpp
                                price = 0.0;
                                pages = 0;
                                displayb();
                                throw;
                }
        }


                void displayb()
                {
                                cout<<"The book you entered is :"<<endl<<endl;
                                cout<<"The entered title is :"<<title<<endl;
                                cout<<"The entered price is :"<<price<<endl;
                                cout<<"The entered pages are :"<<pages<<endl;
}

};

class tape:public publication
{
        float min;
        public:
        tape(string t="No title",float p= 0.0, float m = 0.00):publication(t,p)
        {
        min=m;
        }
                void gett()
                {
                                cout<<"Enter the details of the tape :"<<endl;
                                cout<<"Enter the title of the tape :"<<endl;
                                cin>>title;
                                //cin.ignore(1,'\n');
                                //getline(cin,title);
                                cout<<"Enter the price of the tape :"<<endl;
                                cin>>price;
                                cout<<"Enter the pages of the playing time(in minutes) :"<<endl;
                                cin>>min;

        try
        {
                if(min > 30.00 && min < 90.00)
                {
                                if(price > 500 && price < 1000)
                                {
                                        displayt();
                                }
```

```cpp
                }
                else throw(min);
        }
        catch(float f){
                cout<<"caught exception in the function of tape"<<endl;
                cout<<"you entered an invalid data"<<endl;
                title = "0";
                price = 0.0;
                min = 0.0;
                displayt();
                throw;
        }
}
                void displayt()
                {
                        cout<<"The details of tape you entered is :"<<endl<<endl;
                        cout<<"The entered title is :"<<title<<endl;
                        cout<<"The entered price is :"<<price<<endl;
                        cout<<"The entered play time is :"<<min<<endl;
}

};

int main()
{
        books b;
        tape t;
        int choice;
        cout<<"Do want to buy a book(Press 1) or a tape(Press 2) :"<<flush;
        cin>>choice;
        switch(choice)
        {
                case 1: try
                                {
                                        b.getb();
                                }
                                catch(int i){
                                        cout<<"Caught exception in int main()"<<endl;
                                }
                                break;
                case 2: try
                                {
                                        t.gett();
                                }
                                catch(float f){
                                        cout<<"Caught exception in int main()"<<endl;
```

```
                    }
                    break;
            default:cout<<"Entered bad choice!! Try again!!"<<endl;
        }
        return 0;
}


/*Output:-
system@system-Lenovo:~$ g++ filename.cpp
system@system-Lenovo:~$ ./a.out
Do want to buy a book(Press 1) or a tape(Press 2) :1
Enter the details of the book :
Enter the title of the book :the man
Enter the price of the book :200
Enter the pages of the book :366
Caught exception in function of book

You entered an invalid data
The book you entered is :
The entered title is :0
The entered price is :0
The entered pages are :0
Caught exception in int main()

system@system-Lenovo:~$ ./a.out

Do want to buy a book(Press 1) or a tape(Press 2) :2
Enter the details of the tape :
Enter the title of the tape :tape real
Enter the price of the tape :600
Enter the pages of the playing time(in minutes) :80

The details of tape you entered is :
The entered title is :tape real
The entered price is :600
The entered play time is :80
*/
```