

Bangladesh University of Business and Technology

BUBT



Assignment

On

Course Title : Object Oriented Programming

Course Code : CSE 122

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Assignment 2

Question: Imagine a publishing company that markets both book and audiocassette versions of its works. 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). Each of these three classes should have a getData() function to get its data from the user at the keyboard, and a putData() function to display its data. Write a main program to test the book and tape classes by creating instances of them, asking the user to fill in data with getData(), and then displaying the data with putData()

Answer:

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

```
class publication {
private:
    string title;
    float price;
public:
    void getData() {
        cout << "Enter the title of the publication: ";
        getline(cin, title);
        cout << "Enter the price of the publication: ";
        cin >> price;
```

```

        cin.ignore(); // to consume the trailing newline
    }
    void putData() const {
        cout << "Title: " << title << endl;
        cout << "Price: " << price << endl;
    }
};

class book : public publication {
private:
    int page_count;
public:
    void getData() {
        publication::getData();
        cout << "Enter the number of pages in the book: ";
        cin >> page_count;
        cin.ignore(); // to consume the trailing newline
    }
    void putData() const {
        publication::putData();
        cout << "Page count: " << page_count << endl;
    }
};

```

```

class tape : public publication {
    private:
        float playing_time;
    public:
        void getData() {
            publication::getData();
            cout << "Enter the playing time of the tape (in minutes): ";
            cin >> playing_time;
            cin.ignore(); // to consume the trailing newline
        }
        void putData() const {
            publication::putData();
            cout << "Playing time: " << playing_time << " minutes" << endl;
        }
};

```

```

int main() {
    book b;
    tape t;

    cout << "Enter the details of the book:\n";
    b.getData();
    cout << "\nEnter the details of the tape:\n";
    t.getData();
}

```

```
    cout << "\n\nThe details of the book are:\n";  
    b.putData();  
    cout << "\n\nThe details of the tape are:\n";  
    t.putData();  
  
    return 0;  
}
```

OUTPUT:

Enter data for the book:

Enter the title: The Great Gatsby

Enter the price: 12.99

Enter the page count: 180

Enter data for the tape:

Enter the title: The Great Gatsby

Enter the price: 24.99

Enter the playing time in minutes: 180.5

Book data:

Title: The Great Gatsby

Price: 12.99

Page count: 180

Tape data:

Title: The Great Gatsby

Price: 24.99

Playing time (minutes): 180.5