OOP 2024S HW9 (due to 4/29 23:59)

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Problem

An airline booking system stores information about tickets sold to passengers.

What you need to design are
1. Write a class called BasicTicket that stores a passenger's name, departure city, arrival city, flight number, and ticket price.
2. Write a constructor to set the fields and include a method called get Price () which returns the price of the ticket.
3. Write a derived class called PremiumTicket that inherits all the details from BasicTicket but also stores the passenger's seat number.
4. Write a constructor which sets all the BasicTicket information and the seat number. The price for PremiumTickets is 10% more than the price of a BasicTicket.
5. Write a function which redefines the get Price () method in PremiumTicket to return the price of the PremiumTicket by calling BasicTicket's getPrice ( ) method and multiplying the result by 10%.
6. Write a driver program which creates a BasicTicket object and a Premium-Ticket object, and prints out the price of both.
7. Write a simple function to add the cost of all the tickets in the vector.

Test case

```
number of passenger
10
information
John NewYork LosAngeles 123 200.00 0
information
Jane Chicago SanFrancisco 456 350.00 7
information
Alice Miami Seattle 789 150.00 0
information
Bob Denver Orlando 012 400.00 3
information
Chris SanFrancisco LasVegas 456 300.00 0
information
David NewYork Chicago 234 250.00 0
information
Emma Seattle Miami 789 180.00 0
information
Frank LosAngeles NewYork 123 220.00 5
information
Grace Chicago LosAngeles 456 280.00 0
information
Henry Denver Orlando 012 380.00 6
```

1. input 第一行是乘客人數
2. 輸入每位乘客的資訊
3. 位置輸入 0 為 BasicTicket
4. Price 顯示至小數點後兩位

```
Price of both tickets :
200
385
150
440
300
250
180
242
280
418
Total cost of all tickets: 2845
```

1. 依序輸出每位乘客實際的價錢
2. 最後輸出總價錢

Constraint

1. 0 < number of passengers < 100
2. 0 < price of a BasicTicket < 1000
3. Price of Preimum Ticket is an integer number
4. Using cin and cout to show the answer

Command

compile

g++ main.cpp -o Hw09

execute

./Hw09

OJ

/home/share/demo_OOP112_2 Hw 09

Submission

Compress main.cpp into _HW9.zip and submit it on newE3.