**PMT: Cruise Company**

The Cruise Company owns a fleet of luxury ships and organizes boat cruises in the Mediterranean. Maggie’s Jewelers is a long-time customer of Cruise Company and is planning to take its higher level employees on a boat cruise to reward the staff after the jewelry store recorded phenomenal profits in the previous financial year. The Cruise Company offers three classes of tickets, with family deals being available in two of the three classes. The classes of tickets available as well as the applicable deals are outlined below.

**Exclusive**: A ticket in this class costs $10,000 for a single individual. There is also a deal for couples and families: for a couple, an additional $2,000 is charged (for a total of $12,000) while $13,000 is the cost for a family.

**PremiumPlus**: A ticket in this class sells for $6,000. For a couple, an additional $2,500 is charged (giving a total of $8,500). The family package charges a total of $9,500 for a family.

**EconomyComfort**: There are no deals available with the EconomyComfort option. The cost of each ticket in this class is $1,200 (there is no distinction made between adults and children when charging for and issuing tickets).

Write a Python application to assist the owners of Maggie’s Jewelers in determining how much money needs to be set aside to cover the costs of the boat cruise being planned for its employees. Your application should have the following classes:

* The **Ticket** class with methods as shown below.

**class** Ticket:  
 **def** \_\_init\_\_ …

*# Return this customer's name.* **def** get\_name(self):

*# Return the grade for this ticket ('f' for "family", 's' for "single", 'c' for "group").* **def** get\_grade(self):

*# Calculate and return the cost of this ticket.* **def** get\_cost\_of\_ticket(self):

* Classes **Exclusive**, **PremiumPlus**, and **EconomyComfort** which are subclasses of **Ticket**. They should override the relevant method(s) of the Ticket class.
* **Customer** class with methods as follows:

**class** Customer:  
 **def** \_\_init\_\_ …

*# Return the name of this customer* **def** get\_name(self):

*# Return a list of tickets for this customer* **def** get\_tickets(self):

*# Add a ticket object to the list of tickets for this customer* **def** add\_ticket(self, ticket):

*# Determine and return the total cost of all the tickets bought by this customer* **def** get\_total\_cost\_of\_tickets(self):

You should test your classes using the main function below:

**def** main():  
 jeweler = Customer(**"Maggie May"**)  
 *# John Smith is going on the cruise with his family.* cust1 = Exclusive(**"John Smith"**, **'f'**)  
 *# Jane Jones is going on the cruise alone.* cust2 = PremiumPlus(**"Jane Jones"**, **'s'**)  
 *# Ruth Sharp is going on the cruise with her spouse* cust3 = EconomyComfort(**"Ruth Sharp"**, **'c'**, 2)  
  
 jeweler.add\_ticket(cust1)  
 jeweler.add\_ticket(cust2)  
 jeweler.add\_ticket(cust3)  
  
 print(**"Maggie's Jewelers List of Passengers"**)  
 print(**"====================================\n"**)  
 print(**"NOTE: 'c' -> couple; 'f' -> family; 's' -> single\n"**)  
  
 tickets = jeweler.get\_tickets()  
 **for** ticket **in** tickets:  
 print(**f'{**ticket.get\_name()**:<17}{"("}{**str(ticket.get\_grade())**}{")"}'  
 f'{" $"}{**ticket.get\_cost\_of\_ticket()**:>10,.2f}'**)  
 print()  
 print(**f'{"Total cost of tickets: $"}{**jeweler.get\_total\_cost\_of\_tickets()**:>10,.2f}'**)  
  
 *# Dempsey Dean is going on the cruise with her spouse* cust4 = Exclusive(**"Dempsey Dean"**, **'c'**)  
 *# John Smith is going on the cruise with his family of 5.* cust5 = EconomyComfort(**"Sophia Weather"**, **'f'**, 5)  
   
 jeweler.add\_ticket(cust4)  
 jeweler.add\_ticket(cust5)  
  
 print()  
 **for** ticket **in** tickets:  
 print(**f'{**ticket.get\_name()**:<17}{"("}{**str(ticket.get\_grade())**}{")"}{" $"}{**ticket.get\_cost\_of\_ticket()**:>10,.2f}'**)  
 print()  
 print(**f'{"Total cost of tickets: $"}{**jeweler.get\_total\_cost\_of\_tickets()**:>10,.2f}'**)

**Expected output:**

Maggie's Jewelers List of Passengers

====================================

NOTE: 'c' -> couple; 'f' -> family; 's' -> single

John Smith (f) $ 13,000.00

Jane Jones (s) $ 6,000.00

Ruth Sharp (c) $ 2,400.00

Total cost of tickets: $ 21,400.00

John Smith (f) $ 13,000.00

Jane Jones (s) $ 6,000.00

Ruth Sharp (c) $ 2,400.00

Dempsey Dean (c) $ 12,000.00

Sophia Weather (f) $ 6,000.00

Total cost of tickets: $ 39,400.00

Process finished with exit code 0

**PMT Submission**

Submit your working solution to the dropbox before it closes.