PYTHON  
1. Four classes have been created in this PYTHON project.  
Draw a class diagram in the space below showing the classes  
(including their attributes and methods) and relationships.  
  
(1 mark)  
  
  
PYTHON  
2. In the setup method of the Controller class write code that to create the following FishOwners using the add\_owner method that exists in the Aquarium class.  
  
  
ID First Name Last Name Birth Date  
PHK Phil Key 8/05/1980  
RUT Russel Turia 16/02/1984  
TAN Tariana Norman 30/11/1987  
JOG John Goff 12/13/1982  
  
  
NOTE: the defect in this data is deliberate – fix it!  
  
(2 marks)  
  
  
PYTHON  
3. Write a get\_owners method for Aquarium class that displays data about the FishOwners.  
  
The required output is:  
  
Phil, Key [PHK]  
Russel, Turia [RUT]  
Tariana, Norman [TAN]  
John, Goff [JOG]  
  
NOTE: Punctuation and spacing and ORDER must also be as shown above.  
  
(3 marks)  
  
  
PYTHON  
4. Write an add\_fish method for the FishOwner class that can be used to create a new Fish.  
Note: You will need to add some code in the Fish class as well.  
  
(4 marks)  
  
PYTHON  
5. In the setup method of the Controller class write code to create the following Fish, using the add\_fish method that has been created previously.  
NOTE: You will have to use the find\_owner method in the Aquarium class  
  
FishOwner ID Colour Breed Gender Cost  
PHK Purple Siamese Fighting Fish M $2.55  
RUT Orange Carp F $5.56  
RUT Gold Carp F $10.99  
JOG Grey Shark M $123.45  
JOG Black Killer Whale M $5,000.01  
TAN Gold GoldFish F $9.87  
  
  
(5 marks)  
  
PYTHON  
6. Write a boolean get method named has\_two\_fish in the FishOwner class that returns true if the number of fish that person owns is two and false otherwise.  
  
(2 marks)  
  
PYTHON  
7. Write a get\_those\_with\_two\_fish method for the Aquarium class that first lists for each FishOwner who has exactly two fish, the FishOwner's details and then lists underneath the details of the Fish as shown below.  
This method must call the method created in the previous question.  
The required output is:  
  
Russel, Turia [RUT]  
 Orange Carp (F) is worth $5.56   
 Gold Carp (F) is worth $10.99   
John, Goff [JOG]  
 Grey Shark (M) is worth $123.45   
 Black Killer Whale (M) is worth $5,000.01   
  
NOTE: The order shown above is the required order. Punctuation and spacing must also be as shown above.  
  
(8 marks)  
  
HOW TO SUBMIT YOUR COMPLETED TEST  
When you have finished the test, zip and send. /src folder to the digital drop box on Moodle.  
You must check with one of the tutors that this has been done properly before you leave the room.  
If your work has not been loaded into digital drop box while you are in the room your test will not be marked.