

Instructions

1. Create a folder for your programs.
2. Your programs should have your name and group in the comment at the top and should be commented fully.
3. Test your programs fully
4. When you have finished working on the programs, upload them all to Repeat CA Submission on Blackboard.
5. Make sure you have submitted all four java files
 - PetrolPump.java
 - PetrolPumpTester.java
 - Property.java
 - PropertyTester.java

Question 1: (60 Marks)

A `PetrolPump` dispenses litre amounts of petrol. The maximum amount of petrol that the `PetrolPump` can hold in litres and the cost of a litre of petrol should be set on construction. The initial petrol level should be all set 0.

Include methods for each of the following:

- Get the cost per litre.
 - Set the cost per litre.
 - Get the current level of petrol in the pump.
 - The pump can be filled with petrol. (Always to maximum level).
 - Include a method called `dispensePetrol()` which will take litre amount of petrol to be dispensed and will calculate and return the price. This method should return zero if there is insufficient petrol in the pump.
1. Write the `PetrolPump` class including instance variables, constructors and methods.
 2. Write a basic tester program `PetrolPumpTester` which calls or invokes each method of the class including any constructors.

Question 2: (40 Marks)

Download the file `Property.java` to your folder.

- (A) Add a `toString()` and an `equals()` method to the class.
- (B) Write a program that will use an `ArrayList` of `Property` objects. The program should do the following:
1. Create an `ArrayList` of `Property` objects
 2. Declare 3 `Property` objects
 3. Add these to the `ArrayList`
 4. Print out details of the most expensive `Property`