

### Practical: Classes and Objects

Country name	Population size	Area (km <sup>2</sup> )
UK	59000000	245000.0
China	1330000000	9600000.0
Malawi	500000	118000.0

1. A) The above table lists the name, population size and area for three countries. Write a c# program in which the class has three non-static attributes (name, size and area), one user-defined constructor to assign the three attributes, and method Main() that creates three country objects (call the objects c1, c2, and c3) and then prints the attributes of each object to screen.  
  
B) Draw a class diagram of your solution.
2. A) Only complete this question once you are satisfied you have a correct solution to Q1. Edit your program so that a block of code for a new class called CountryTest is defined above class Country (but within the same namespace). Then>
  - i. **cut and paste** the Main() of Country into this new class.
  - ii. include the keyword 'public' before each of the three attributes in class Country – this is to increase their scope.

Compile and run – the program should execute as before.

- B) If you have implemented the changes correctly the solution demonstrates that the call to create an object (instantiation) can occur in a different class from that containing the other class code (this is applicable when the user writes code to create objects of library classes). Draw a new class diagram of your solution (i.e. there are two classes which should be drawn connected by a single line to indicate a relationship between them).

### DEMO SOLUTION FOR Q2 (program and class diagram) TO TUTOR