# MechEng SE3 09-10   Tutorial 4

CRC and Class Diagrams for
## Domain Modelling and Analysis
Sample Solution

Note: As mentioned on the tutorial sheet, there are many ways of analysing these use cases. The solution shown here is only one. These diagrams are meant to be working documents, undergoing progressive modification and refinement as the requirements and the design problem is better understood and as a design solution emerges. *The important factor, therefore, is to make sure you know why you've produced your diagrams as you have – i.e., be able to justify your analysis and design decisions*.

CRC Diagram
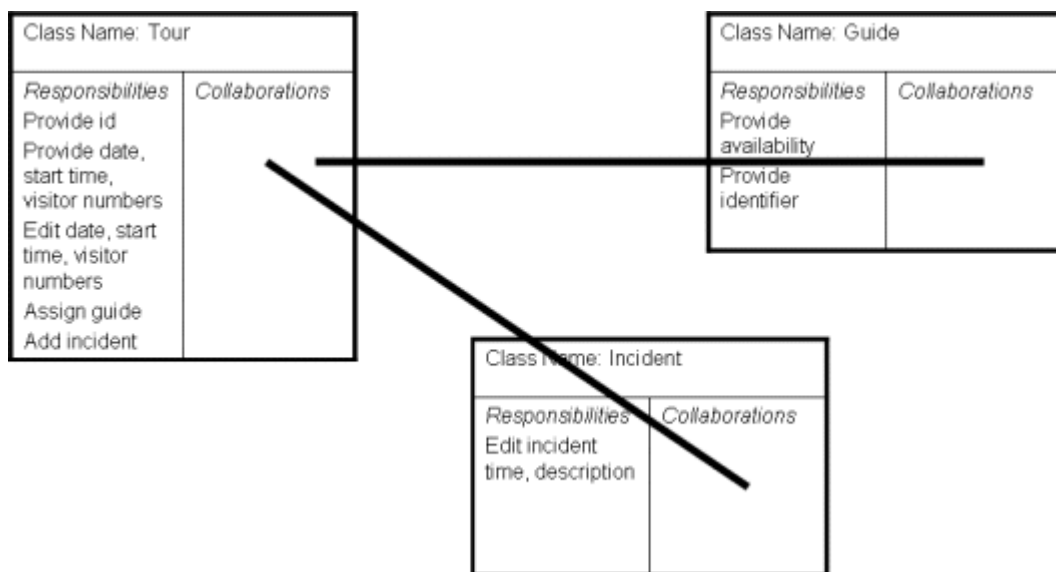
Responsibilities and collaborations are based on the Use Case description in the tutorial handout. Note that '*provide identifier*' is added to class `Guide`, so that guides may be selected. Also, class Tour includes a '*provide date, start time, visitor numbers*' and '*provide id*' responsibility, again so that it can be identified and selected. Clearly, additional responsibilities and collaborations will have to be added as the analysis continues. However, this 'first cut' CRC offers an initial analysis sufficient to begin work on the class diagrams.

Class Diagram, version 1
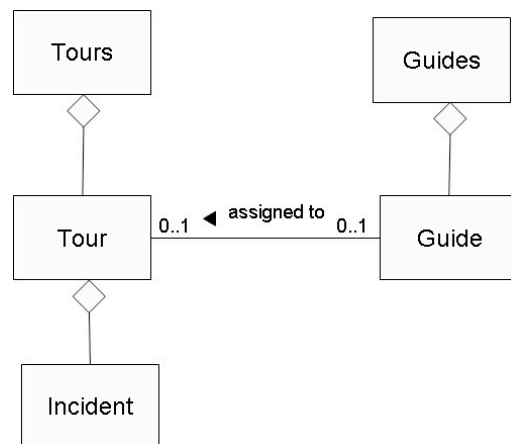
This first version of the class diagram just shows the basic associations among the classes. Two new classes have been added, compared to the CRC, viz., classes to hold collections of tours and guides. These will be useful for selecting a tour or a guide from the set of tours or guides. No such collection class is shown for Incident, since the use cases don't require the selection of an incident from a collection

Class Diagram, version 2
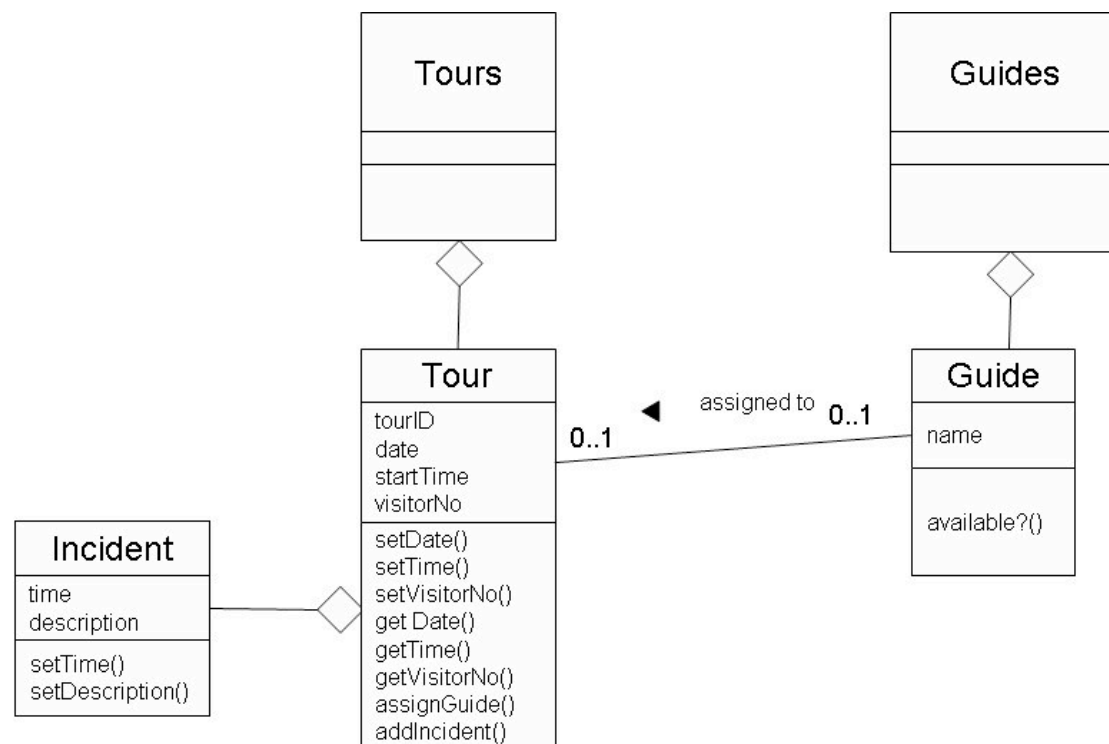
In version 2 of the class diagram, attributes and operations have been added to the key classes. Note that there are no attributes to represent the associations between classes. These will be added later, during design. No operations have been added to the collection classes. These will be identified as the interaction between classes is analysed using communication or sequence diagrams.