Tutorial Objectives:
- to perform class analysis
- to draw use cases

Tutorial Task:

1. Draw diagrams to link the following classes using aggregation, inheritance and multiplicity (identifying 1 to M, 1 to 1 etc) where appropriate:
   - Village, street, house, shop, road, pavement
   - University staff, academic, administrator, technician, domestic
   - Subscriber, paying subscriber, complimentary subscriber, individual paying subscriber, corporate paying subscriber
   - Zoo, animal, bird, mammal, reptile, cage, keeper
   - Estate, building, house, shop unit, room, window, door, wall, floor, ceiling

2. Draw a class diagram, including class attributes, to represent the information given in the paragraph below.
   A dental surgery keeps information about its patients, who may be either private or health service. For each patient the surgery records the name, address, phone number, date of birth, and either the health service number or the payment method.

3. Write brief descriptions in English of the information in each of the following class diagrams:
4. Fit for Life is a chain of health clubs, each with two sections: exercise and beauty. People can join a club as full members or part-time (in which case they are only allowed to use the facilities at certain times). The exercise section of each club has a gym and a swimming pool. Members can use these on a casual basis, but they have to make appointments for treatments in the beauty clinic, such as massage, facial or mud bath. Each club in the Fir for Life chain also has a restaurant, which is open to club members and the general public.

Draw a class diagram to represent this information. Where appropriate, your diagram should include association, aggregation, inheritance and multiplicity. You do not need to include attributes or operations.
5. Littlesand, Pebbleseat and Mudport are three charming resorts on the East Coast which are very popular with tourists, since they score well on beach rating and hours of sunshine for the area. All three resorts have a large number of places to stay ranging from one-room guest houses to the exclusive Palace Hotel at Pebblesea. The local tourist board wants to set up a central system to deal with room bookings in the area.

Draw a class diagram to represent this information. Where appropriate, your diagram should include association, aggregation, inheritance and multiplicity. List sample attributes and operations for the class Resort.

6. Littlesand town museum has several rooms with exhibitions of items of local and national interest. Entry is free, but there is a charge for special exhibitions. For a small annual fee, local residents can become ‘friends’ of the museum; for this they are entitled to reduced entry charges for the exhibitions. Each item in the museum is catalogued with an identity code, name, date of acquisition, where it came from, the room in the museum in which it is currently displayed, and a brief description. Staff of the museum include the chief curator, ten specialist guides and a number of administration staff.

Draw a class diagram to represent this information. Where appropriate, your diagram should include association, aggregation, inheritance and multiplicity. List sample attributes and operations for the class Resort.

(Adapted from Britton, Doake, 2000. Object-Oriented Systems development)