Classification

In this assignment, you will learn how to apply a standard classification method to a classification problem that you choose yourself.

Instruction

Write a report of around 2 pages A4. Be sure to discuss all items listed below. You may write the report in Dutch or English. Work in groups of 2 persons. Submit the report by email to michel.klein@cs.vu.nl before Monday March 7, 11:00 am. Start the subject of the email with 'KS'.

Description

Choose a classification problem for a domain that is familiar to you. Describe it as an classification problem and choose one of the standard classification methods (MC1 - MC4) to solve it. Describe the aspects that are mentioned below.

The methods MC1 till MC4 are described in Chapter 7 of the book "Introduction to Knowledge Systems" by M. Stefik.

1. Describe your classification problem itself. What do you try to solve?
2. Describe how the classification method that you have chosen (M1 - M4) works and explain the knowledge that is used and the reasoning steps.
3. Explain which choices you made with respect to the following characteristics of a classification methods. See Figure 7.6 in the book.
   - form of the solution (singleton/composite);
   - completeness of search;
   - termination criteria;
   - inclusion criteria (e.g. positive coverage, complete explanation);
   - ordering criteria (e.g. minimal subset).
4. Explain why you have chosen for a specific classification method. Why is your method the best choice and are other methods less suited? Take into account the assumptions of the different methods.
5. Describe one scenario: a step-by-step description of how the method solves a specific classification problem. Start with your objects / situations and its properties and explain how your classifcation methods handles these situations (e.g. start with an apple and show how your method will find the type of apple).