

2001 Paper 1 Question 5

Foundations of Computer Science

This question has been translated from Standard ML to OCaml

- (a) Write brief notes on the following:
- (i) Re-coding a function to make it iterative. [4 marks]
 - (ii) The difference between depth-first and breadth-first search. [4 marks]
 - (iii) OCaml's exception-handling facilities. [4 marks]
- (b) Code a function whose input is a list of integers and whose output is the list of all the integers that can be expressed as the sum of one or more of the supplied integers. For example, given [1; 5; 10] a correct output is [1; 5; 10; 6; 11; 15; 16]; the order of the elements in the output does not matter. [5 marks]
- (c) Modify the function that you coded above so that the elements of its output appear in numerical order and without repetitions. [3 marks]