

2001 Paper 13 Question 6

Comparative Programming Languages

- (a) Briefly explain the concept of coroutines as used in BCPL and outline the effect of the library functions `createco(f, size)`, `deleteco(ctpr)`, `callco(cptr, val)` and `cwait(val)`. [10 marks]
- (b) Outline how you would design a coroutine to merge, in increasing order, two infinite streams of increasing integers supplied by two other coroutines. [5 marks]
- (c) Briefly outline how you would implement an analogous merging mechanism in an object-oriented language, such as Java, that does not provide a coroutine mechanism. [5 marks]