1996 Paper 10 Question 3

Further Modula-3

A Modula-3 library module is required to provide a buffered stream of characters between two threads, with appropriate synchronization.

Write a `Buffer` interface defining an opaque object type, `T`, with the following methods:

   `init`: taking an argument specifying the buffer size and returning a suitably initialized object

   `put`: inserting a single character into the buffer

   `get`: extracting a single character from the buffer

[4 marks]

Sketch a corresponding implementation giving

(*a*) the concrete revelation of the types   [4 marks]

(*b*) the three default methods   [4 marks each]

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