Mathematics u34605 (algorithms and data structures) Michaelmas 2020

November 20, 2020

1 Third assignment, roughly 2 weeks to complete

Use the `submit-work` program to submit your C program (nothing else).

This is assignment is to replace the `link_inverse_edges` routine in `bcc.c` (sample code in module subdirectory) by an efficient routine. Roughly speaking, the current version is $\Omega(m^2)$ and it can be accomplished in $O(m)$, or more exactly, $O(m + n)$ time, using a form of lexical sort.

If you produce one list of edges sorted by `from` within `to` and match it with another list of the same edges sorted by `to` within `from`, then it is easy to link the edges in $O(m)$ time.