Report

Q1)

Construct the function rename() as follows. Let us have n(n + 1)/2 splitters and visualize these in a matrix. A process pi can enter this matrix at the top-left corner – this splitter is numbered “1”. Each splitter has a unique number, which is its name, from 1…(n)(n+1)/2. The process moves along the matrix according to the values it obtains from the splitter (it moves for down/right and it stops at the splitter otherwise). This can be done for all processes, and since the property of a splitter makes it so that at most one process can “stop” at this splitter, we are assured that each process ends up with their own splitter, and hence they all get their own new name, which is the name (splitter #) attached to each splitter. Additionally, this is index independent, as the index of a processor has no impact on the path it will take along the splitters.

Q4) Plot for A: