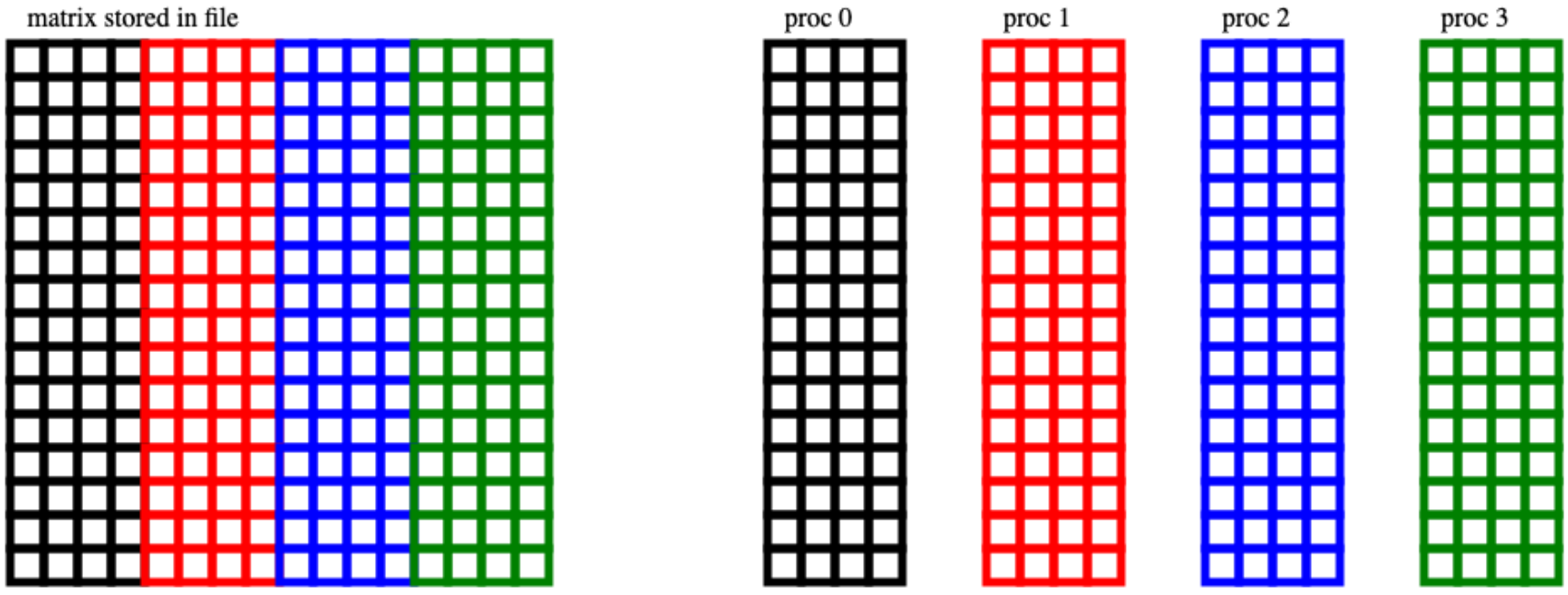
Assignment 1 Problem 2

The goal is to optimize the use of memory, avoid allocating an array to hold the entire data at once.

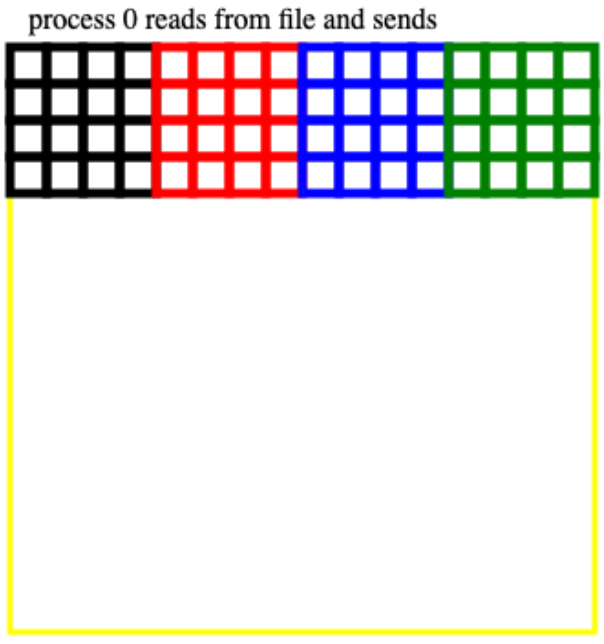
In this example m=16,n=16,p=4

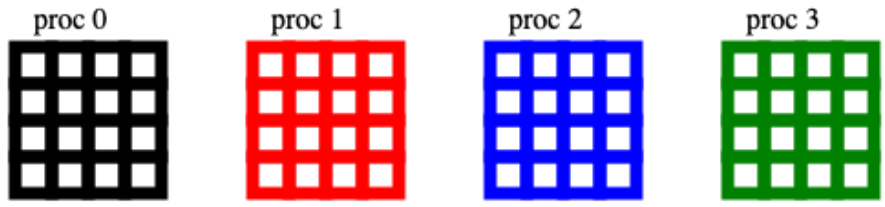
Process 0 reads one (m/p) by n block at a time from file.



Stage 0, process 0 reading (m/p)*n block from file

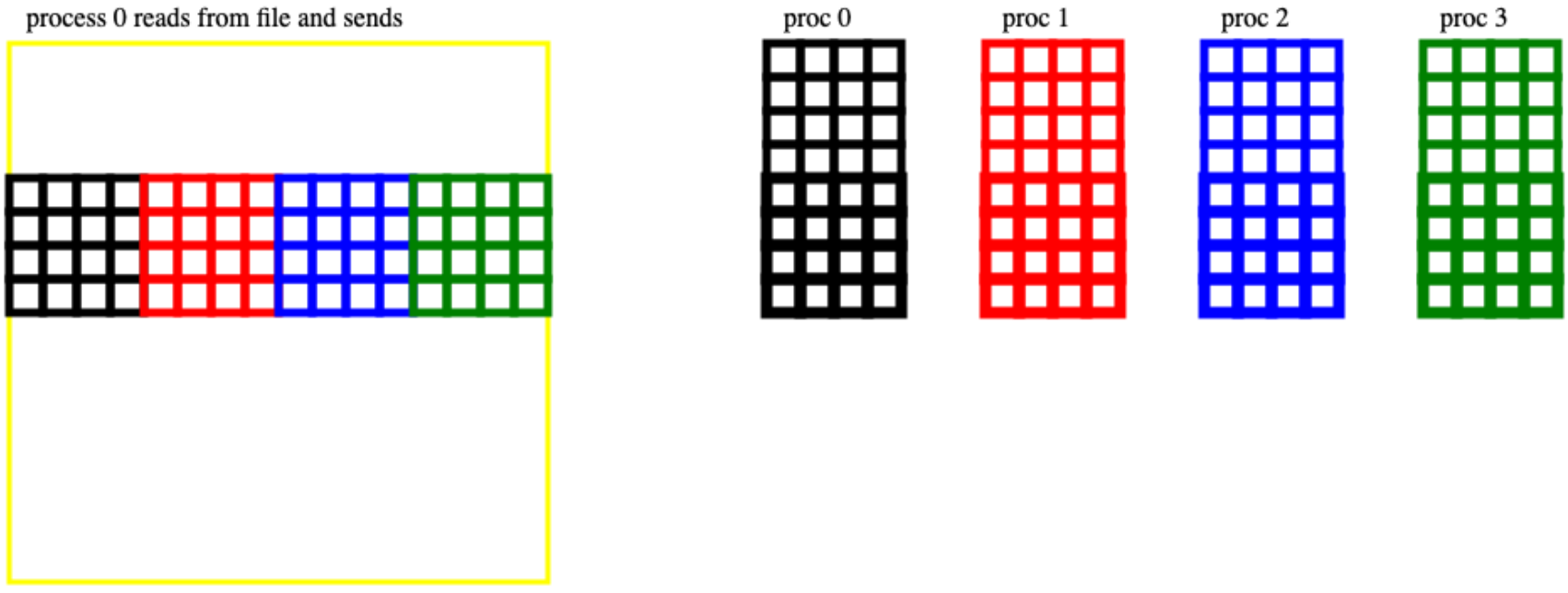
Single MPI_Send (m/p)*(n/p) block to each process





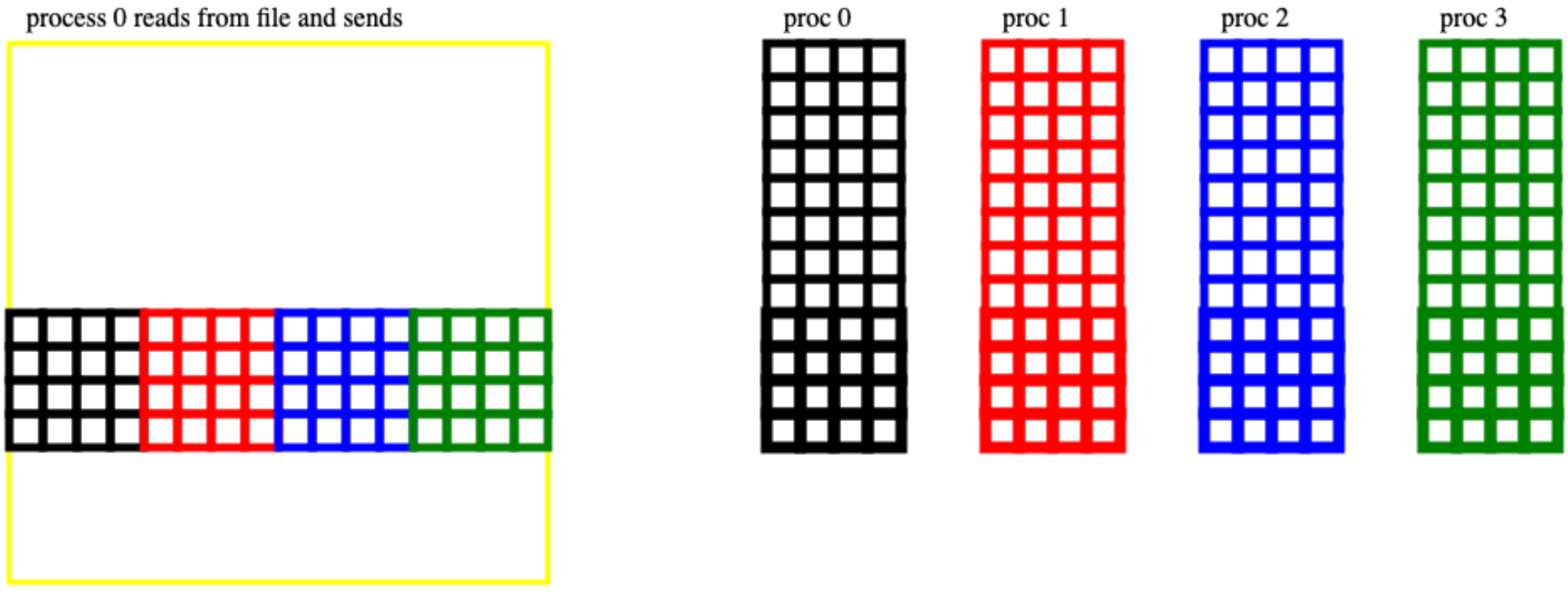
Stage 1

Single MPI_Send (m/p)*(n/p) block to each process



Stage 2

Single MPI_Send (m/p)*(n/p) block to each process



Stage 3

Single MPI_Send (m/p)*(n/p) block to each process