Isaac Abboudi OverfullGranaries Write-Up May 18 2023

OverfullGranaries maps to a network flow problem. The granaries are the nodes. The directed edges between the granaries represent the roads connecting them. The edge capacities correspond to the maximum bushels of grain that can be transported per hour on each road. Src node is connected to all overfullGranaries, and the sink is connected to all underfullGranaries.

My reduction of the problem to a network flow algorithm does indeed respect the problems specifications. The algorithm guarantees that the grain transfer does not exceed the limits defined by the edges' capacity. The edge flow/capacity is measured in bushels/hour. The implementation also follows rules such as conservation of flow, and minCut properties.

I could not get it to function, though. I had some bug in the FordFulkerson residual graph, somewhere at that point. I wasn't navigating the graph precisely. Anyway, thanks for a great year!

Below is an example graph:

