Data Intensive Computing - Review Questions 6

Deadline: October 13, 2019

1. According to the greedy vertex-cut algorithm in PowerGraph, an edge (u, v) should be assigned to one of the machines from the vertex (either u or v) with the most unassigned edges, when $A(u) \cap A(v) = \emptyset$. $A(v)$ is the set of machines that vertex v spans. Explain why?

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2. Assume we have two types of resources in the system, i.e., CPU and Memory. In total we have 28 CPU and 56GB RAM (e.g., 1 CPU = 2 GB). There are two users in the systems. User 1 needs $\langle 1CPU, 2GB \rangle$ per task, and user 2 needs $\langle 1CPU, 4GB \rangle$ per task. How do you share the resources fairly among these two users, considering the asset fairness and DRF.