## HOMEWORK PROBLEMS #3

3-1 Can you find a disconnected graph such that its complementary graph is also disconnected? If so, show an example; if not, tell why.

3-2 Consider a computer network in a lab, as shown by the following figure, where each node is a computer (Router or PC) and the numbers indicate the lengths of optical fibers needed if the computers are connected.

(a) Design a best cost-effective Personal Area Network (PAN) by connecting all nodes together, so that every computer can communicate with every other one while the total optical fiber used is the shortest possible. Explain your steps, and what is the total length of optical fibers you need?

(b) Find the shortest path from computer A to computer B, which uses the shorter possible optical fiber. Show your reasoning.
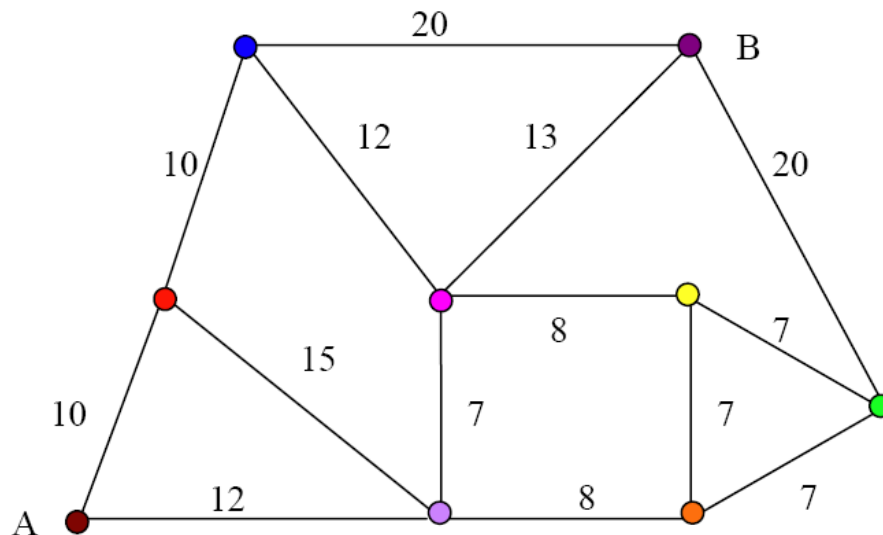
This HW is due in class on Monday, 11 Oct. 2021