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| **GE 2318 Homework #3 2024**  **Name: Student ID:**  **Q1:** For the following fully-connected computer network, find a loop that connects all computers together with the shortest total path-length. Show your route and the total path-length.    **Q2:** (1) Predict Node f will connect to which node(s), and explain why you think so.  (2) Compute the coreness of Node a and Node b, and then compute the coreness of the whole network.    **Q3:** In terms of efficiency, cost and robustness, show the advantages and disadvantages of the following four types of large-scale networks.   |  |  |  | | --- | --- | --- | |  | Advantages | Disadvantages | | Ring-shaped networks |  |  | | Small-world networks |  |  | | Scale-free networks |  |  | | Fully-connected networks |  |  | |