Consider the following graph with four cities and the distances between them. Find the shortest path that would enable the salesman to visit all the cities and return to its hometown. You can choose your hometown among the four cities.

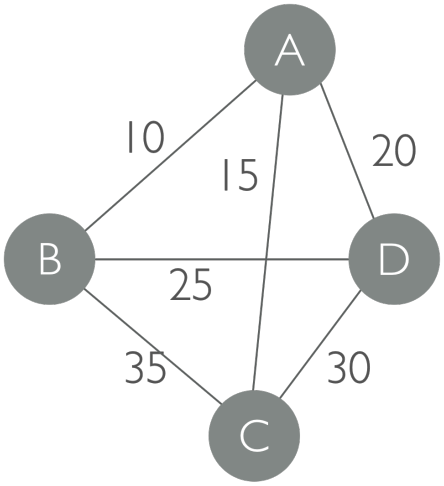

Figure 1: Traveling Salesman Problem

(1) Solve this problem in classical algorithms and report the result and your code whose filename should follow "ClassicalTSP" and file format can be chosen by you (e.g. .py, .ipynb, ...).

(2) Solve this problem using a quantum approximate optimization algorithm (QAOA) and report the result and your code whose filename should follow "QAOATSP" and the file format can be chosen by you (e.g. .py, .ipynb, ...). Discuss this result with the classical one.