Professor Bifid can receive calls and email messages wherever he is, using his cellular phone. There is a nice coffee shop halfway in between Bifid's office and his home. He is always home, in his office, or at the coffee shop.

Bifid has a graduate student who is very close to the deadline for finishing her dissertation. If the student needs immediate help, she contacts the professor by email. He then must come to his office if he is not already there.

Bifid also does consulting. If a client calls with an immediate need, he can help client from home easily, as he has the right equipment there, or with greater difficulty from his office, or even greater difficulty from the coffee shop. If the client calls, Bifid has the option of changing location before helping the client.

If Bifid's wife wants him to take out the garbage, and if he is not at home, she makes their teenage son do it. If he is home, and she makes the request, he must either take out the garbage or leave immediately for the office or the coffee shop.

If Bifid's colleague wants to chat about campus politics, he is too polite to refuse, but this can only happen while he is in the office. He can escape the colleague by leaving immediately for home or coffee shop. (If he is unavailable, the colleague will bother someone else.)

Assign a cost of 0 if Bifid helps the graduate student in his office. Assign a cost of 0 if Bifid helps the client from home, a cost of 1 if he helps the client from his office, and a cost of 2 if he helps the client (over his cellular phone) from the coffee shop.

Assign a cost of 1 for taking out the garbage, and a cost of 1 if the colleague talks to him.

Assign a cost of 2 for him to drive from his home or his office to the coffee shop or from the coffee shop his home or office. Assign a cost of 4 for him to drive from his home to the office directly, or home from the office.

Do not consider any other costs.

Reduce the above problem to a metrical task system. Enumerate the points of the metric space and the distances, and give a table of tasks and costs.