

October has rolled around with more than just the chill of fall; it's brought a zombie apocalypse to town! The mission is to leave the bunker and visit each necessary stop in this town, making sure to include at least one of the grocery stores, to ensure your survival in the zombie apocalypse.

- Grocers: Where you'll grab food.
- Pharmacy: For crucial medications.
- Hospital: To secure vaccinations.
- Gas Station: To fuel up the car for any quick escapes.

Your task is to plan the most efficient route from the bunker, hitting these key points while avoiding unnecessary detours through zombie-infested areas. Remember, every minute counts when the undead are on your heels!

Map of the Town



Hints to Navigate the Shopping Spree

Draw the Network:

Sketch out the network of places you need to visit using NetworkX library.

Choose Your Strategy:

Shortest Path: If you want to reach a particular place in the least amount of time, this strategy will be your best friend.

Traveling Salesperson: If you're looking to find the shortest possible route that visits each shop and returns to the start point, then you're thinking about the TSP.

Or a special combination of SP and TSP ?

Submit Your Solution

Each team is required to submit **a one-page document (no more than 1 page!)** outlining their planned route and approach. This document should detail the path you intend to take and explain why you believe it's the most efficient way to gather all the necessary supplies while avoiding unnecessary risks.

Please ensure that your submission includes:

- A clear map or sketch of the route you plan to take.
- A brief description of the logic or strategy behind your route choices.

Submit your document via Courseworks before the class ends.

Be concise, and strategic.

Good Luck!

Instructor: Yaren Bilge Kaya, PhD

Columbia University

Dept. of Industrial Engineering and Operations Research