# 1 Instructions

This program uses the **Dijkstra's Algorithm** to find the **shortest path** between **two nodes**. In this case, each vertex node represents a station, and those nodes are connected by edges nodes that consists the direction and weighting information.

Weightings can be considered as the cost it takes to get to each station using that path. A priroity queue is used to make priorities in the order of moving through the edge nodes; it finds the shortest path assuming the next move with the least cost takes the user to the destination.

In order to run the program, import all the files inside the lab05 folder and input the following command into the terminal.

gcc lab5.c test5.c extras.c -g -o lab

A sample call can be run by inputting '6' in the terminal. The function adds all the stations and connections as illustrated in the image below, and the shortest path is found by running the command.
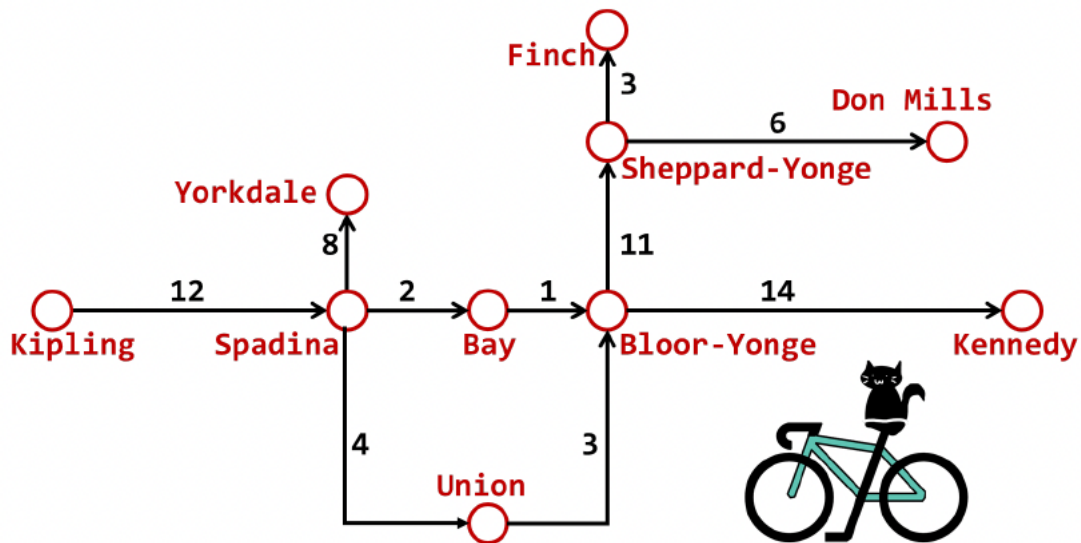
Shortest path obtained by running the algorithm:

Kipling, Spadina, Bay, Bloor-Yonge, Sheppard-Yonge, Don Mills

The disrupt function can also be utilized to delete one of the stations. After deleting the station bay, the path is given as:

Kipling, Spadina, Union, Bloor-Yonge, Sheppard-Yonge, Don Mills