CPSC 441 – Assignment 3

Program Usage

Usage: ./assign_3 <option(s)> <mapfile> <homefile>

Options:

    -h,--help   Show this help message
    -d DESTINATION   Specify the destination home. (if not specified, default set to Bilbo)

    Algorithms: A table will be printed for each algrithm passed (if not specified, default set to -sdp)
    -sdp   Traverse the graph using Shortest Distance Path (SDP)
    -shp   Traverse the graph using Shortest Hop Path (SHP)
    -stp   Traverse the graph using Shortest Time Path (STP)
    -ftp   Traverse the graph using Fewest Trolls Path (FTP)

Examples:

./assign_3 ../files/bilbomap.txt ../files/bilbohomes.txt
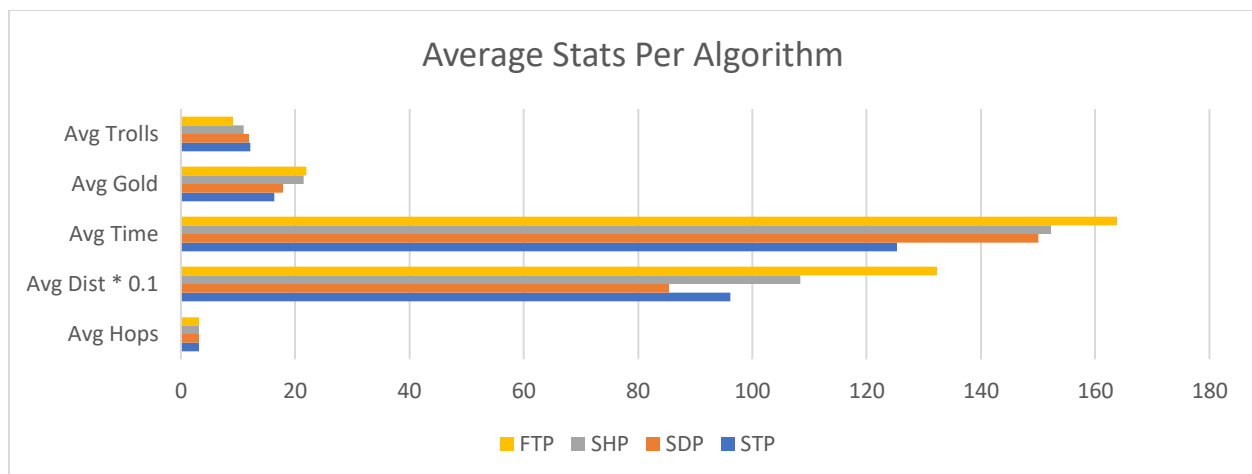
Will run SDP on the files bilbomap.txt and bilbohomes.txt with Bibo as the destination

./assign_3 -d Balin -stp -sdp -shp -ftp ../files/canadamap.txt ../files/canadahomes.txt

Will run STP, SDP, SHP and FTP on the files canadamap.txt and canadahomes.txt with Balin as the destination

Observations

I believe average is the best quantifier for checking the "best" performance of each algorithm. The char below represents the stats for each algorithm ran on the Bilbo map/homes files.

As you can see depending on what you consider to be most important you would want to use that particular algorithm. With the exception of FTP which is the worst in every category, so unless you can't handle the trolls FTP would be the worst algorithm.