Example of Path Traversal: Traverse a route that connects two cities in a graph where each city has only one outgoing connection.

Problem Description

In a hypothetical world, there are a number of cities. Each city has a one-way connection to only one other city via a specific transit method. The details of the cities are as follows:

Vladivostok is a lively city. You can travel from Vladivostok to Guildford by ferry.
Kendal is a lively city. You can travel from Kendal to Fort McMurray by plane.
Fort McMurray is a lively city. You can travel from Fort McMurray to Versailles by train.
Astrakhan is a lively city. You can travel from Astrakhan to Akron by bus.
Timisoara is a lively city. You can travel from Timisoara to Lafayette by train.
Bolzano is a lively city. You can travel from Bolzano to Terrace by bus.
Versailles is a lively city. You can travel from Versailles to West Valley City by ferry.
Lille is a lively city. You can travel from Lille to Abingdon by ferry.
Lafayette is a lively city. You can travel from Lafayette to Tucson by ferry.
Reno is a lively city. You can travel from Reno to Lafayette by plane.
... ...
Kamloops is a lively city. You can travel from Kamloops to Fort Collins by ferry.
Livorno is a lively city. You can travel from Livorno to Colorado Springs by train.
Vladikavkaz is a lively city. You can travel from Vladikavkaz to Bromsgrove by plane.
Medicine Hat is a lively city. You can travel from Medicine Hat to Tallinn by ferry.
Sandhurst is a lively city. You can travel from Sandhurst to Erfurt by ferry.
Tucson is a lively city. You can travel from Tucson to Gateshead by train.
Chilliwack is a lively city. You can travel from Chilliwack to Naperville by bus.
Sacramento is a lively city. You can travel from Sacramento to Kendal by ferry.
Folkestone is a lively city. You can travel from Folkestone to Reno by ferry.
Bournemouth is a lively city. You can travel from Bournemouth to Cornwall by plane.

Now find the route from Lille to Bromsgrove based on the information above.

Target Route

From Lille, take a ferry to Abingdon.
From Abingdon, take a bus to Augsburg.
From Augsburg, take a plane to Lecce.
From Lecce, take a plane to Vladivostok.
From Vladivostok, take a ferry to Guildford.
From Guildford, take a ferry to Gelsenkirchen.
From Gelsenkirchen, take a train to Kamloops.
From Kamloops, take a ferry to Fort Collins.
From Fort Collins, take a train to Basingstoke.
From Basingstoke, take a plane to Medicine Hat.
... ...
From Sacramento, take a ferry to Kendal.
From Kendal, take a plane to Fort McMurray.
From Fort McMurray, take a train to Versailles.
From Versailles, take a ferry to West Valley City.
From West Valley City, take a plane to Crewe.
From Crewe, take a plane to Worthing.
From Worthing, take a ferry to Bournemouth.
From Bournemouth, take a plane to Cornwall.
From Cornwall, take a ferry to Vladikavkaz.
From Vladikavkaz, take a plane to Bromsgrove.