**Itinerary in C++**

```
#include <iostream>
#include <unordered_map>
#include <string>

using namespace std;

int main() {
    unordered_map<string, string> map;
    map["Chennai"] = "Banglore";
    map["Bombay"] = "Delhi";
    map["Goa"] = "Chennai";
    map["Delhi"] = "Goa";

    // Create a hashmap to mark if a city is a potential
source
    unordered_map<string, bool> psrc;
    for (auto it = map.begin(); it != map.end(); ++it) {
        string src = it->first;
        string dest = it->second;

        psrc[dest] = false; // Destination city cannot be a
source
        if (psrc.find(src) == psrc.end()) {
            psrc[src] = true; // Source city if it is not a
destination in the map
        }
    }

    string src = "";
    for (auto it = psrc.begin(); it != psrc.end(); ++it) {
        if (it->second == true) {
            src = it->first;
            break;
        }
    }

    // Print the itinerary
    while (true) {
        if (map.find(src) != map.end()) {
            cout << src << " -> ";
            src = map[src];
        } else {
            cout << src << ". ";
            break;
        }
    }

    return 0;
}
```

## Step 1: Initialize Data

- **Input Map (City Routes):**

```
Chennai  → Banglore
Bombay   → Delhi
Goa      → Chennai
Delhi    → Goa
```

- **Creating `psrc` (Potential Source Map)**:
  - **Initially Empty**

## Step 2: Mark Potential Sources (`psrc` Construction)

| Iteration | Source (`src`) | Destination (`dest`) | Updated `psrc` (Potential Source Map) |
|---|---|---|---|
| 1 | Chennai | Banglore | { Banglore → false, Chennai → true } |
| 2 | Bombay | Delhi | { Banglore → false, Chennai → true, Delhi → false, Bombay → true } |
| 3 | Goa | Chennai | { Banglore → false, Chennai → false, Delhi → false, Bombay → true, Goa → true } |
| 4 | Delhi | Goa | { Banglore → false, Chennai → false, Delhi → false, Bombay → true, Goa → false } |

- **Final `psrc` Map:**

```
Bombay → true  (Only Source)
Banglore → false
Chennai → false
Delhi → false
Goa → false
```

## Step 3: Find the Start City

- The only city with `true` in `psrc` is **"Bombay"**.
- **Start `src = "Bombay"`.**

## Step 4: Print the Itinerary

| Iteration | Current `src` | Next City (`map[src]`) | Printed Output |
|---|---|---|---|
| 1 | Bombay | Delhi | `Bombay ->` |
| 2 | Delhi | Goa | `Delhi ->` |
| 3 | Goa | Chennai | `Goa ->` |
| 4 | Chennai | Banglore | `Chennai ->` |
| 5 | Banglore | (Not Found) | `Banglore.` |

## Final Output

```
Bombay -> Delhi -> Goa -> Chennai -> Banglore.
```

Output:
Bombay -> Delhi -> Goa -> Chennai -> Banglore.