Guide me project

Team Id :68

DR: RAZAN BAYOUMI

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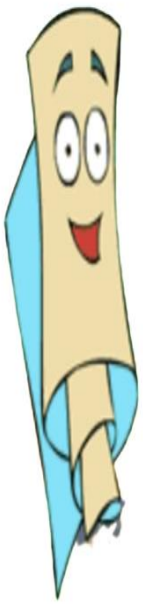
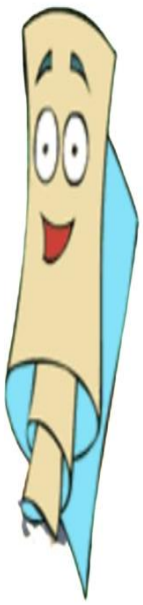
مصطفي اسعد مصطفي توفيق	محمد سيد عفيفي السيد	محمد عبد الناصر محمد	محمد طارق الحسين العراقي
Id:2022170421 Level:2 Department:General	Id:2022170369 Level:2 Department:General	Id:2022170381 Level:2 Department:General	Id:2022170373 Level:2 Department:General



5 → 6

5	6
محمد جمال عبد الموجود	محمد حسن محمد عبد التواب
Id:2021170361 Level:2 Department:General	Id:2022170363 Level:2 Department:General



It’s a graph-based transportation system with various functionalities like traversal algorithms, updating edge costs, adding/removing edges, renaming edges, and checking connectivity between cities. Here's an implementation of these features:

1-Breadth First Search (BFS) and Depth First Search (DFS):

You can traverse By BFS and DFS algorithms for the graph. BFS would help find the shortest path from a starting node to all other reachable nodes, while DFS would allow users to explore paths starting from a specific node.

2-Edge Information :

Each edge in the graph should store information about transportation methods and the associated costs.

3-Adding and Deleting Paths:

You can add a new path between two valid cities by creating a new edge with specified transportation methods and costs.

You can delete an existing path between two valid cities by removing the corresponding edge from the graph.

4-Updating Specific Costs:

Allow users to update the cost between two cities for a specific transportation method.

5-Adding New Transportation:

Enable users to add new transportation methods between two valid cities with their associated costs. This involves creating a new edge in the graph with the specified transportation method and cost.

6-Deleting Transportation:

Provide functionality to delete specific transportation methods between cities. This involves removing the corresponding edge from the graph.

7-Renaming Transportation:

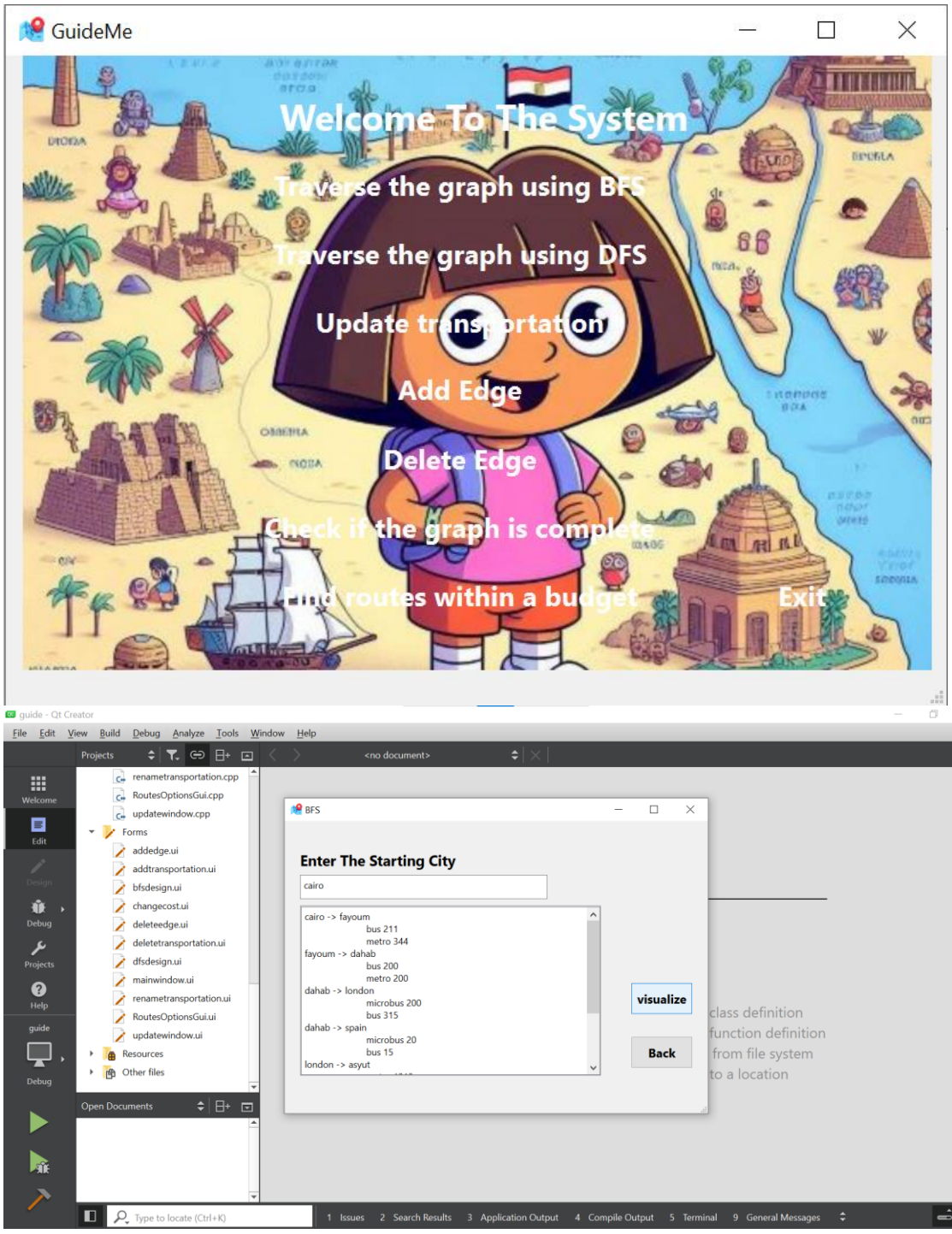
Allow users to rename any valid transportation method between cities.

8-Checking Completeness:

Implement a connectivity check to determine if all cities are connected to each other or not. This can be done using graph traversal algorithms to ensure reachability between every pair of cities.

9-Finding Paths within Budget:

Enable users to find multiple paths between a given source and destination city within a specified budget. This can be achieved using algorithms like Dijkstra's algorithm ,considering the cost of transportation as edge weights.


GuideMe
Welcome To The System
Traverse the graph using BFS
Traverse the graph using DFS
Update transportation
Add Edge
Delete Edge
Check if the graph is complete
Find routes within a budget
Exit
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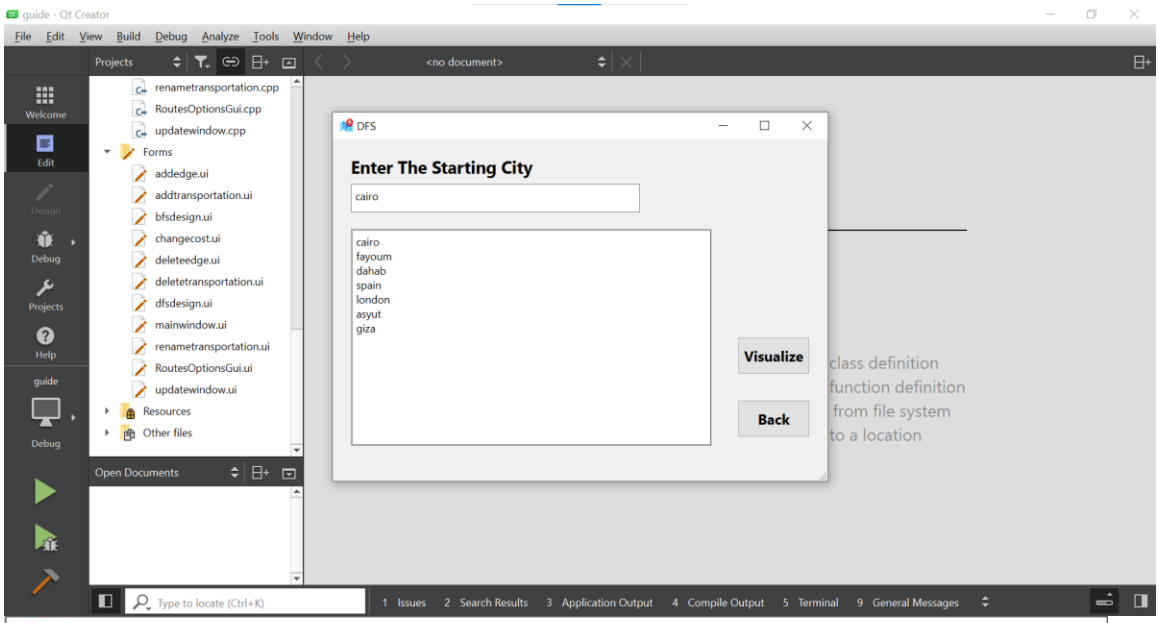
BFS
Enter The Starting City
cairo
cairo -> fayoum
bus 211
metro 344
fayoum -> dahab
bus 200
metro 200
dahab -> london
microbus 200
bus 315
dahab -> spain
microbus 20
bus 15
london -> asyut
visualize
Back
class definition
function definition
from file system
to a location
Type to locate (Ctrl+K)
1 Issues
2 Search Results
3 Application Output
4 Compile Output
5 Terminal
9 General Messages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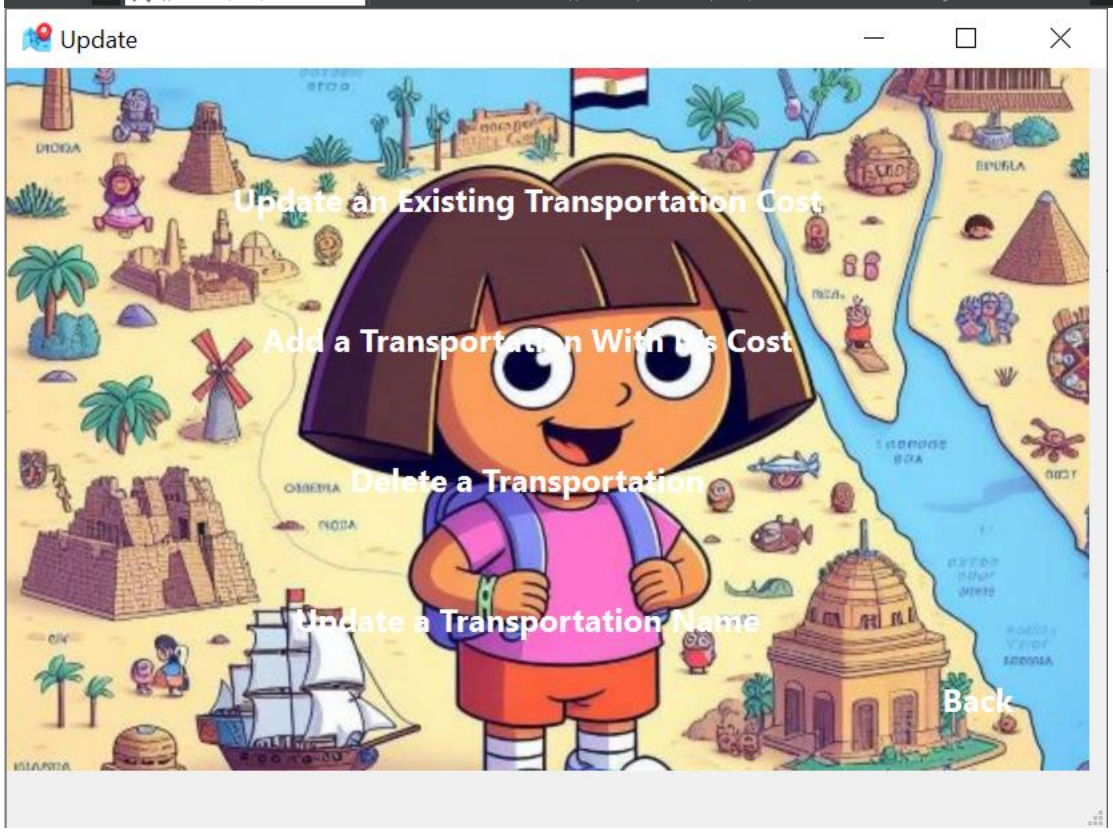
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Update an Existing Transportation Cost
Add a Transportation With its Cost
Delete a Transportation
Update a Transportation Name
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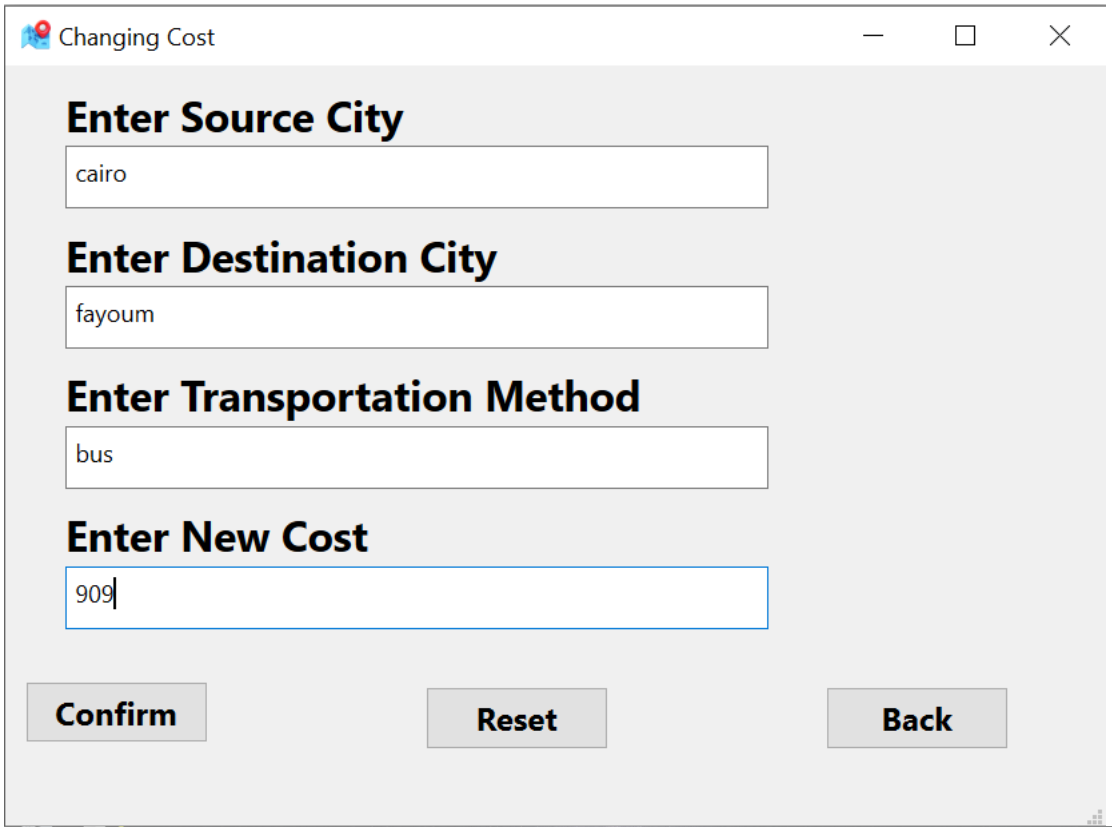
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Confirm
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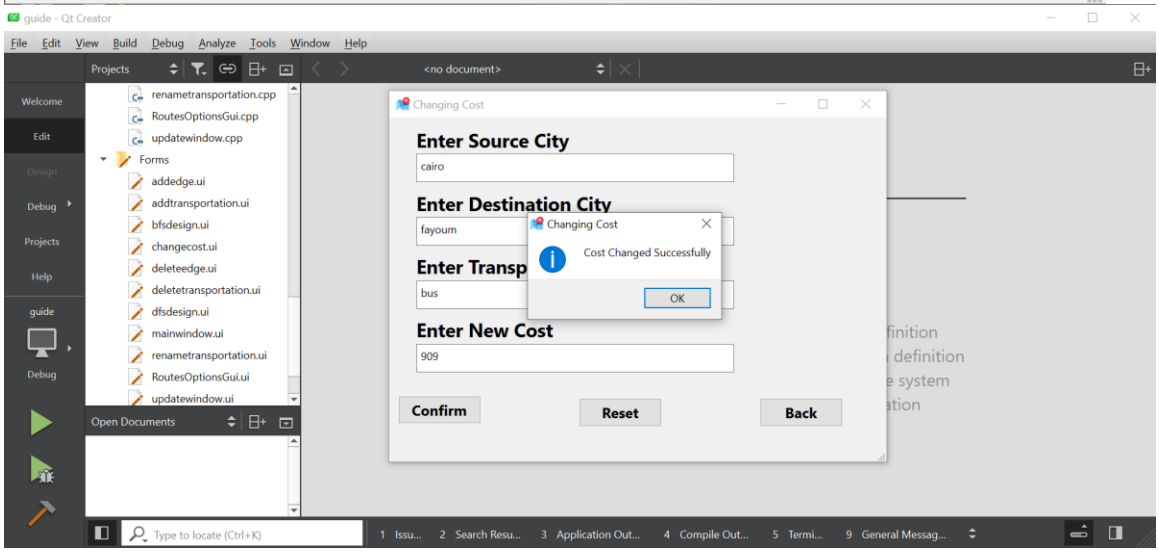
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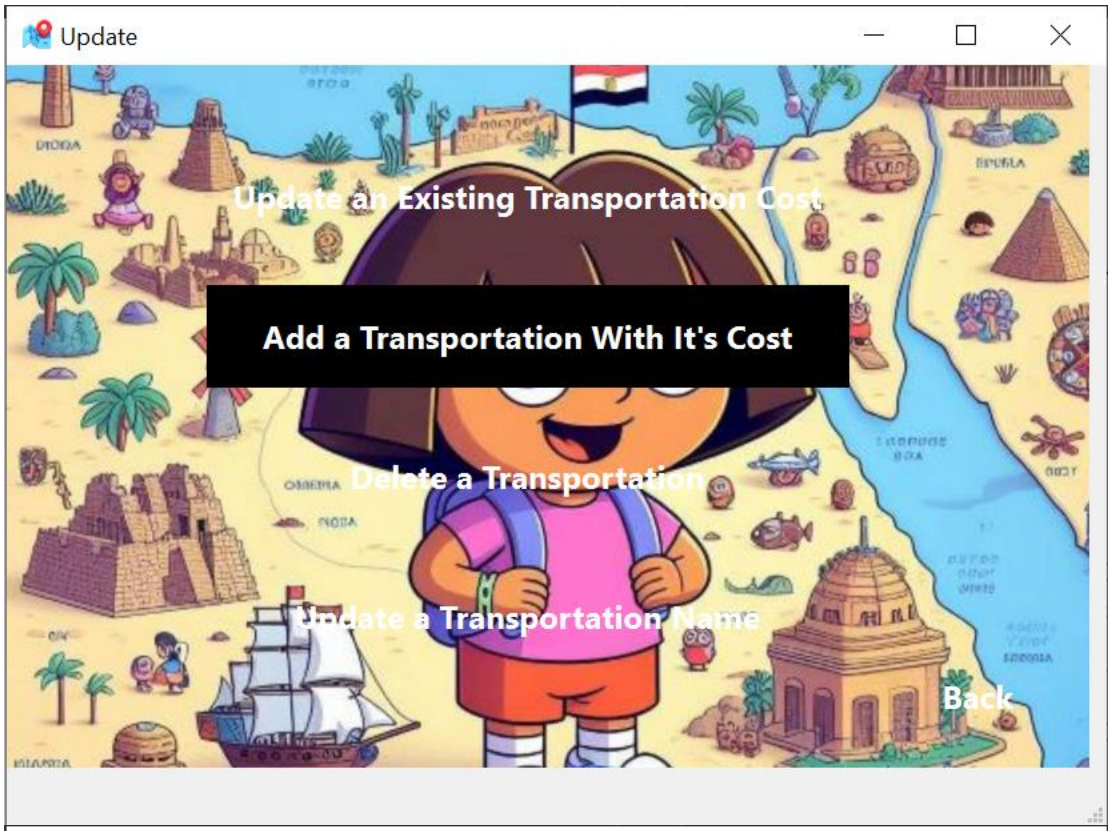
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Delete a Transportation
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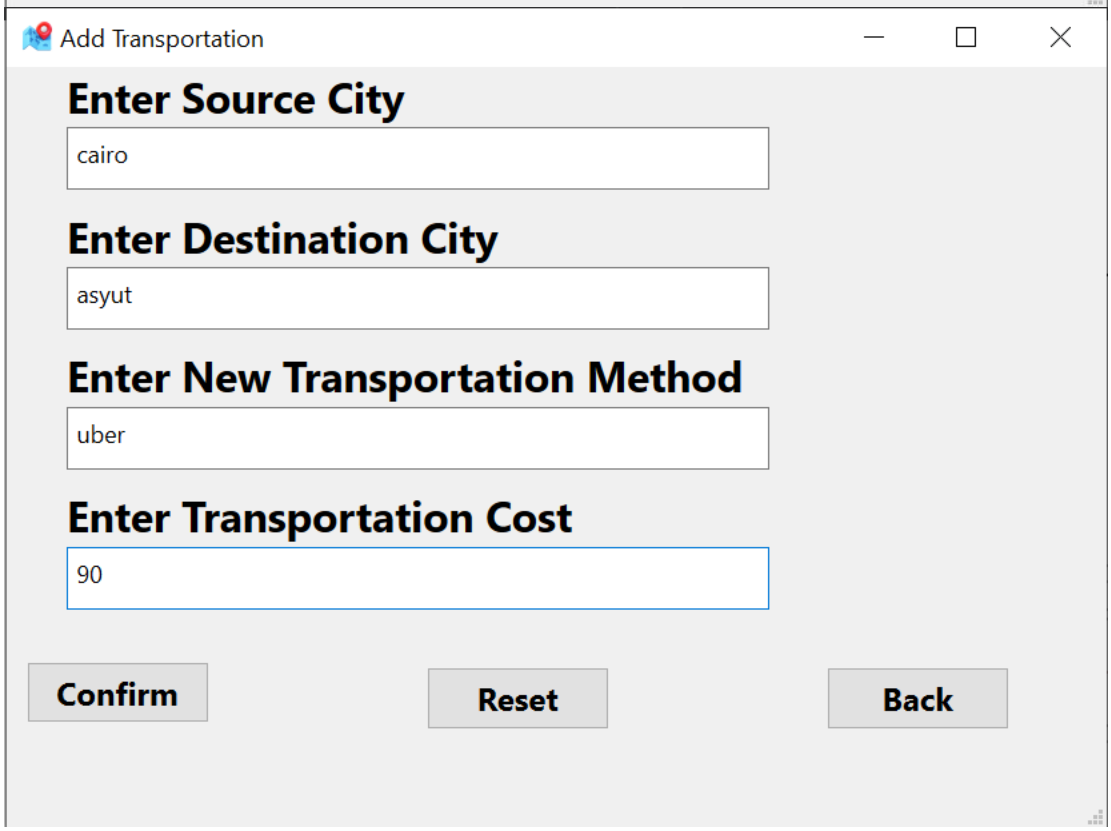
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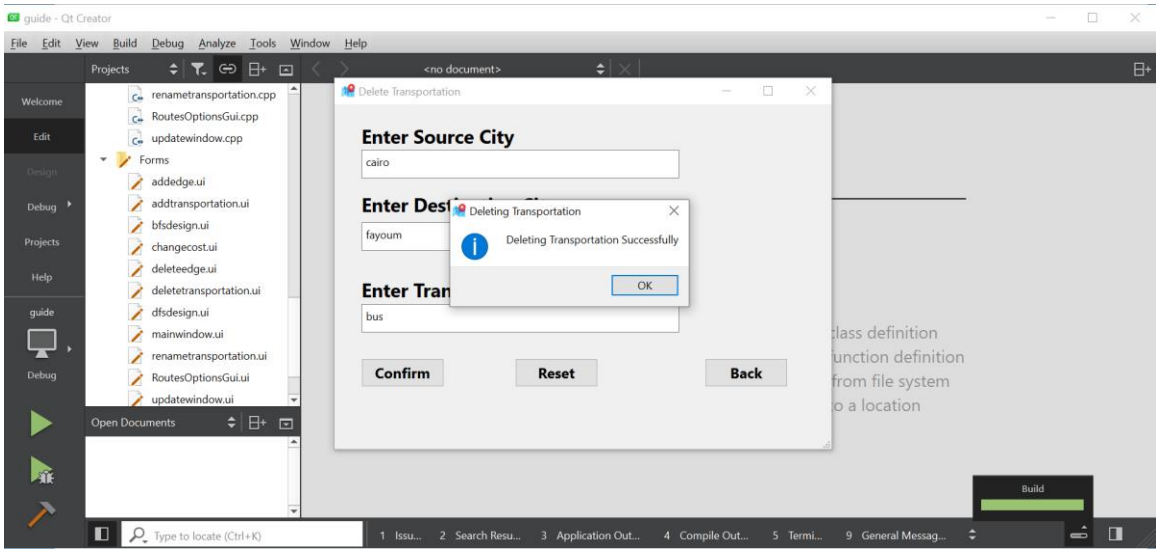
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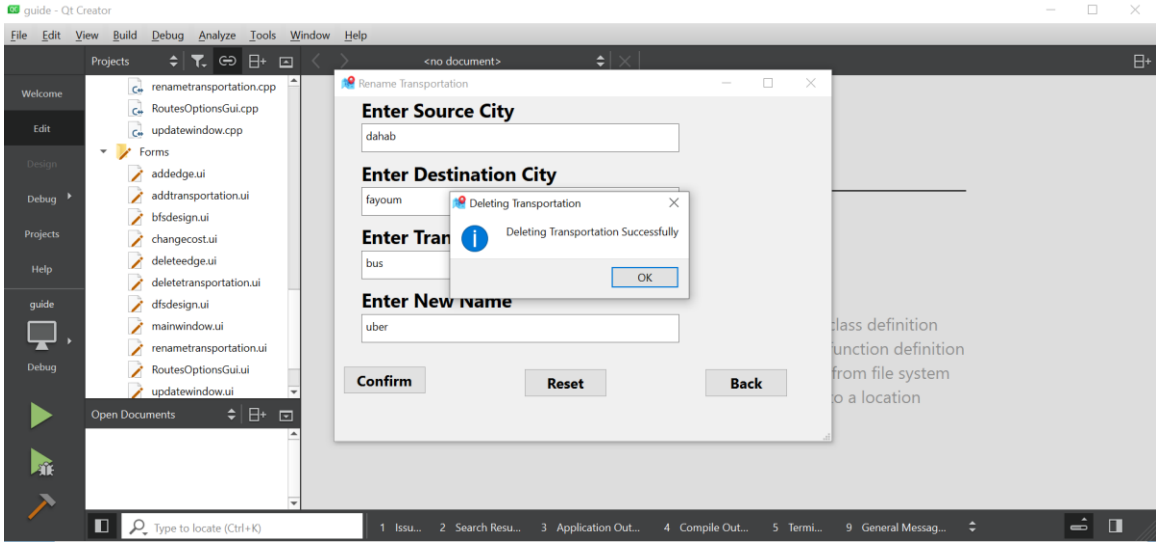
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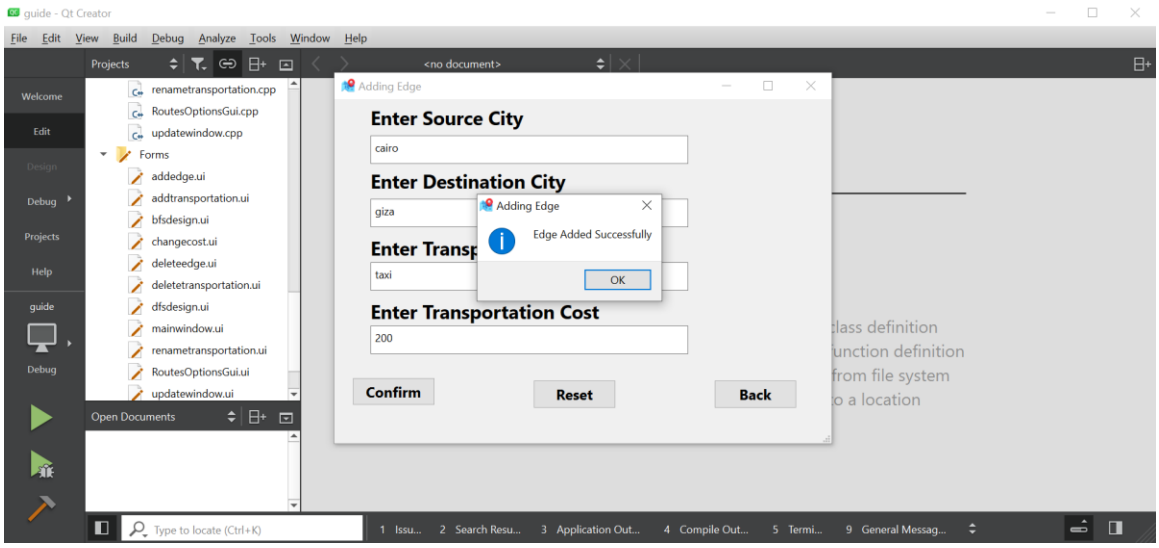
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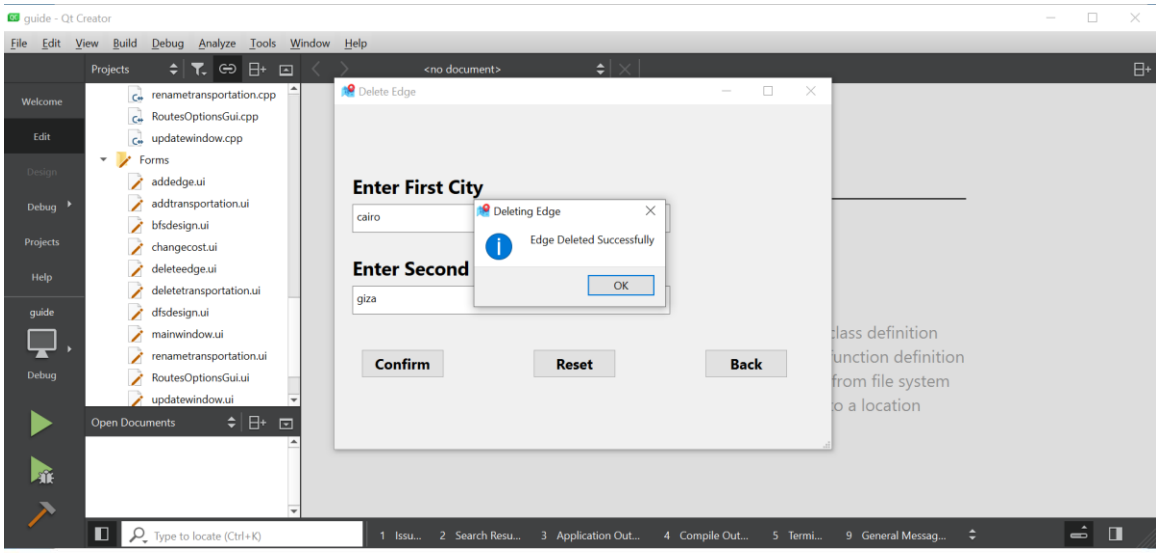
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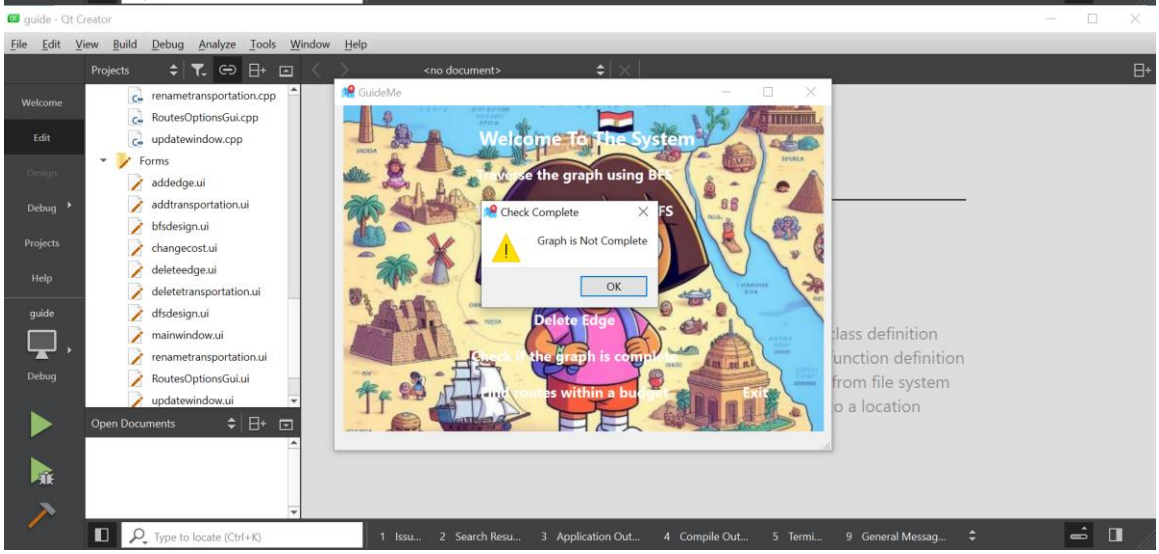
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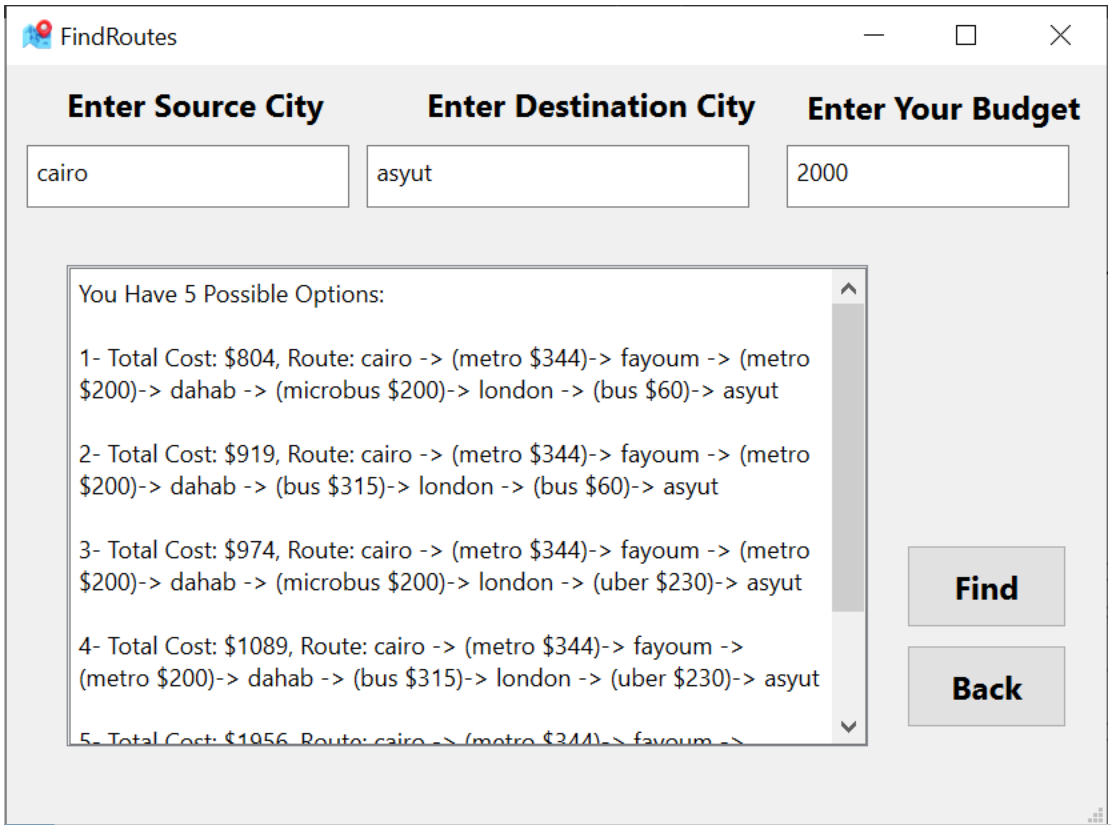
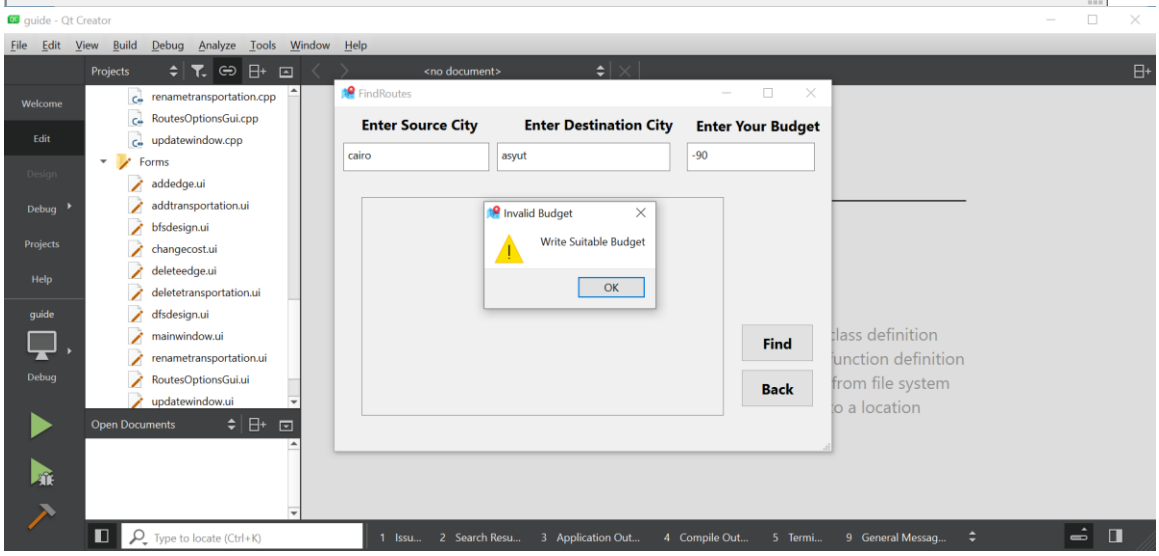

FindRoutes
Enter Source City
Enter Destination City
Enter Your Budget
cairo
asyut
2000
You Have 5 Possible Options:
1- Total Cost: $804, Route: cairo -> (metro $344)-> fayoum -> (metro $200)-> dahab -> (microbus $200)-> london -> (bus $60)-> asyut
2- Total Cost: $919, Route: cairo -> (metro $344)-> fayoum -> (metro $200)-> dahab -> (bus $315)-> london -> (bus $60)-> asyut
3- Total Cost: $974, Route: cairo -> (metro $344)-> fayoum -> (metro $200)-> dahab -> (microbus $200)-> london -> (uber $230)-> asyut
4- Total Cost: $1089, Route: cairo -> (metro $344)-> fayoum -> (metro $200)-> dahab -> (bus $315)-> london -> (uber $230)-> asyut
Find
Back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Write Suitable Budget
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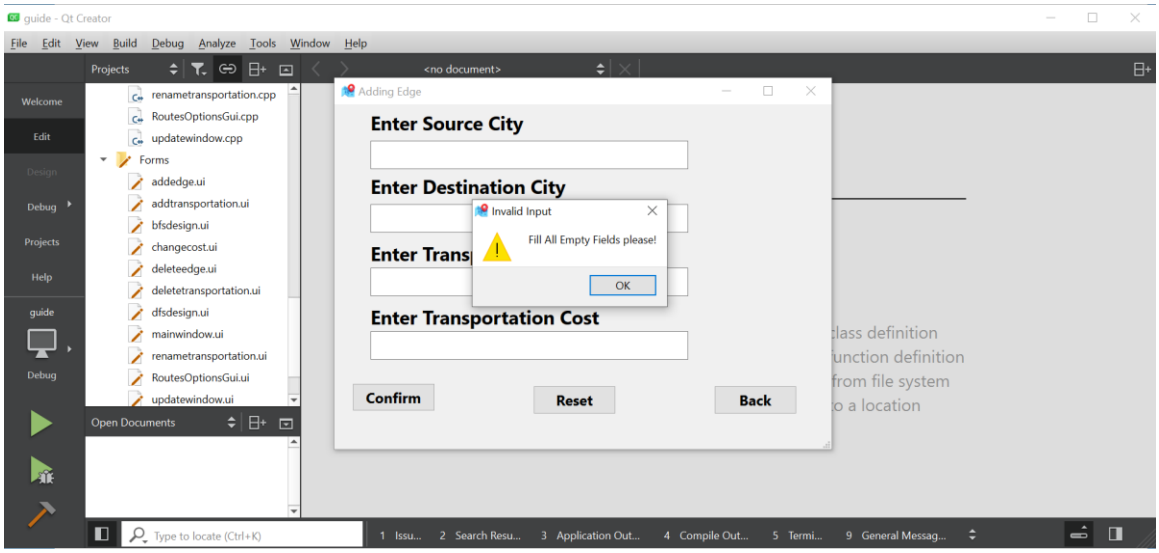
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Open Documents
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Invalid Input
Fill All Empty Fields please!
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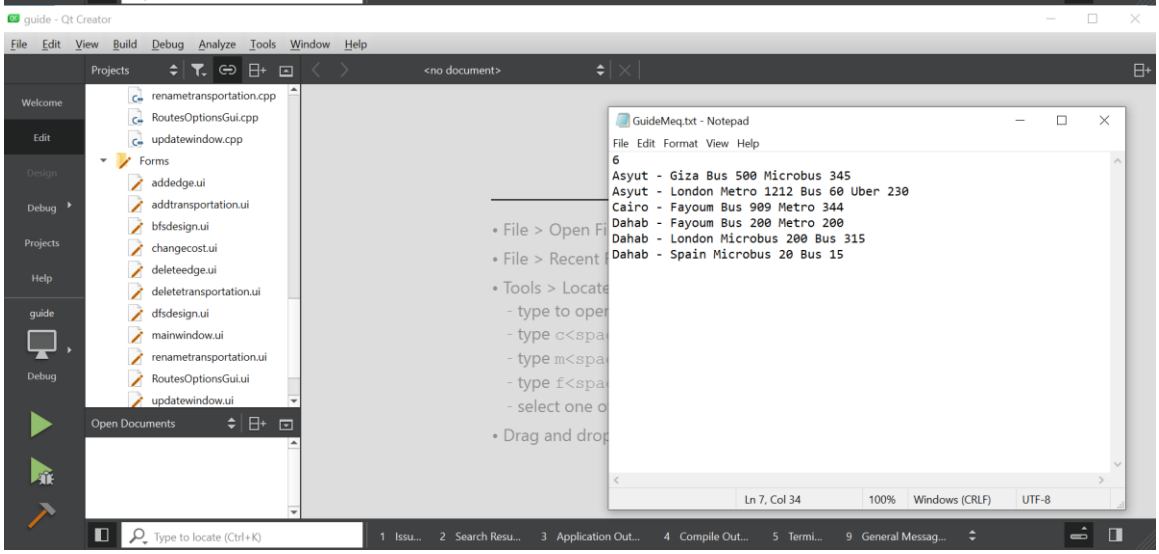
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