Pseudocode for Algorithm 1: Greedy Approach to Hamiltonian Problem

Define function ‘findTheStartingCity’

Define variables city_distances, fuel, and mpg as inputs in the function

    city_distances : the distance between gas stations

    fuel : amount of fuel

    mpg : miles per gallon

Initialize the variables to = 0

Loop through all the cities in the provided list

Once we iterate through all the cities, the number of fuel gained and lost should be computed

    fuelGet : is the amount of fuel when converted to miles with variable mpg

    fuelLose : the distance to the next station (city_distances)

The amount of fuel should be tracked through variables that calculate the amount of fuel gained and lost as the car travels between cities.

    totFuel : total amount of fuel in general

    fuelNow : the fuel available from start

To check if the city is a valid starting point, we can create an if statement that states if the fuelNow variable is below 0, it does not make sense for the car to drive between cities and thus deem this input invalid.

If the amount of fuel is not negative, the starting city can be returned and be deemed valid.