TECHNICAL ASSESSMENT

Ninja Coding House Pte Ltd

Question 1

Given that Singapore Thomson East Coast Line has 27 active stations. Daily commuters want to enquire about both their travel distance and the fare that will be charged when using Thomson East Coast Line. You are required to write a PHP function to compute the distance and card fare between two stations.

The function should have the features below:

- Has two arguments: fromStation and toStation

- Read data from the MRT Station Data and Fare Data url for computation purposes.

- Able to compute distance in km using the two arguments regardless of the station sequence.

- Able to determine the fare between two stations using the distance computed.

- Return null as the distance and fare when the supplied argument is not a valid station.

- Return an array with distance and fare when the supplied arguments are valid.

Data Source and Data Dictionary

MRT Station Data: https://nch-assessment.s3.ap-southeast-1.amazonaws.com/thomson-east-cost-mrt.json

Data	Data Type	Description
codes	array	MRT station code, each station may have multiple codes.
name	string	Station name
title	string	Station title
previous_distance	decimal	Distance to previous station in km. Value will be null if there is no previous station.
next_distance	decimal	Distance to next station in km. Value will be null if there is no next station.

Fare Data: https://nch-assessment.s3.ap-southeast-1.amazonaws.com/card-fare.json

Data	Data Type	Description
from	decimal	Range from in km.
to	decimal	Range to in km.
fare	decimal	Price in cents of the distance travelled.

* Card fare is determined by the corresponding distance travelled range.

Sample Output

Function Invoked	Expected Value Returned
getDistanceAndFare('TE1', 'TE3');	array('distance' => 2.8, 'fare' => 109)
getDistanceAndFare('TE5', 'TE3');	array('distance' => 7, 'fare' => 149)
getDistanceAndFare('TX1', 'TE3');	array('distance' => null, 'fare' => null)
getDistanceAndFare('TE5', 'TX8');	array('distance' => null, 'fare' => null)

Question 2

Create a form to receive fromStation and toStation inputs from the users. Utilize PHP to process the user inputs after they submit the form and display the distance and fare between the selected stations.

Additional Notes

- You may use JavaScript or PHP to validate the inputs if applicable.
- No restriction to the type of input. Select input or text input are acceptable.
- Third party JavaScript libraries are allowed. For e.g. jQuery

----- End of Technical Assessment -----