**Explain for the location.py about Water Network**

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**Explain the location.py:**

Firstly, we have a Node class. This Node class represents each node in water network system.

nodeid: A unique identifier.

x, y : storing its (x,y) coordinates.

location\_type: headwater or junction

edges: A list containing other nodes that are directly connected to this node.

add\_edge(): A method to add a connection to another node.

Distance\_to(): Calculate the distance between two point

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Secondly, Water class represents the entire river system:

nodes: A dictionary containing all nodes in the system, indexed by nodeid.

add\_node(): Method to create a new node and add it to the nodes dictionary.

connect\_nodes(): Method to create an edge between two nodes. It takes two nodeid as arguments and connects them.

get\_distance(): Method to calculate the distance between two point.

dfs(): Depth-First-Search Method. It explores nodes starting from the provided start\_id and prints details of each node as it's visited.

edge\_list(): Method to check each point has the correct edges

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