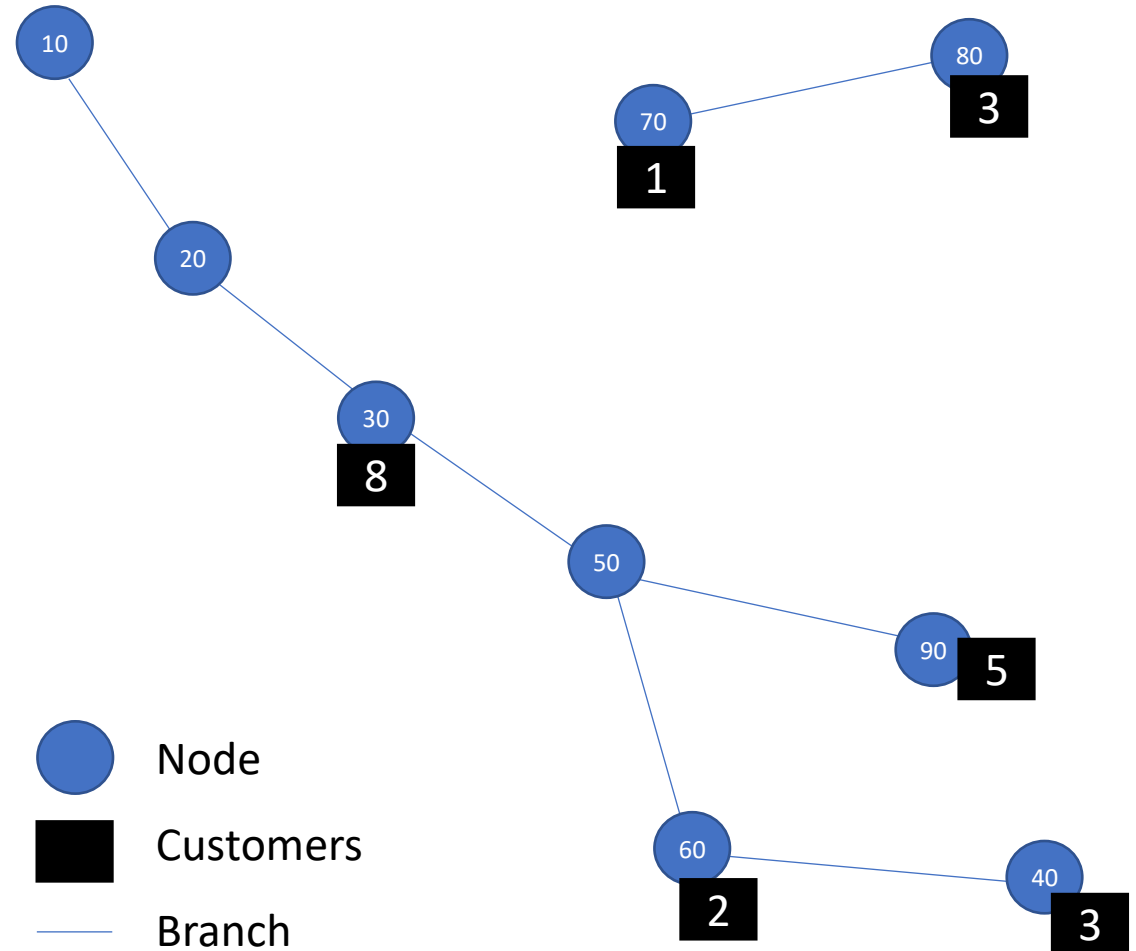


User Story

- As an application developer, I want a Web API which returns the number of “downstream” customers from a selected node in a network of nodes and branches, so that I can build features related to electrical current.

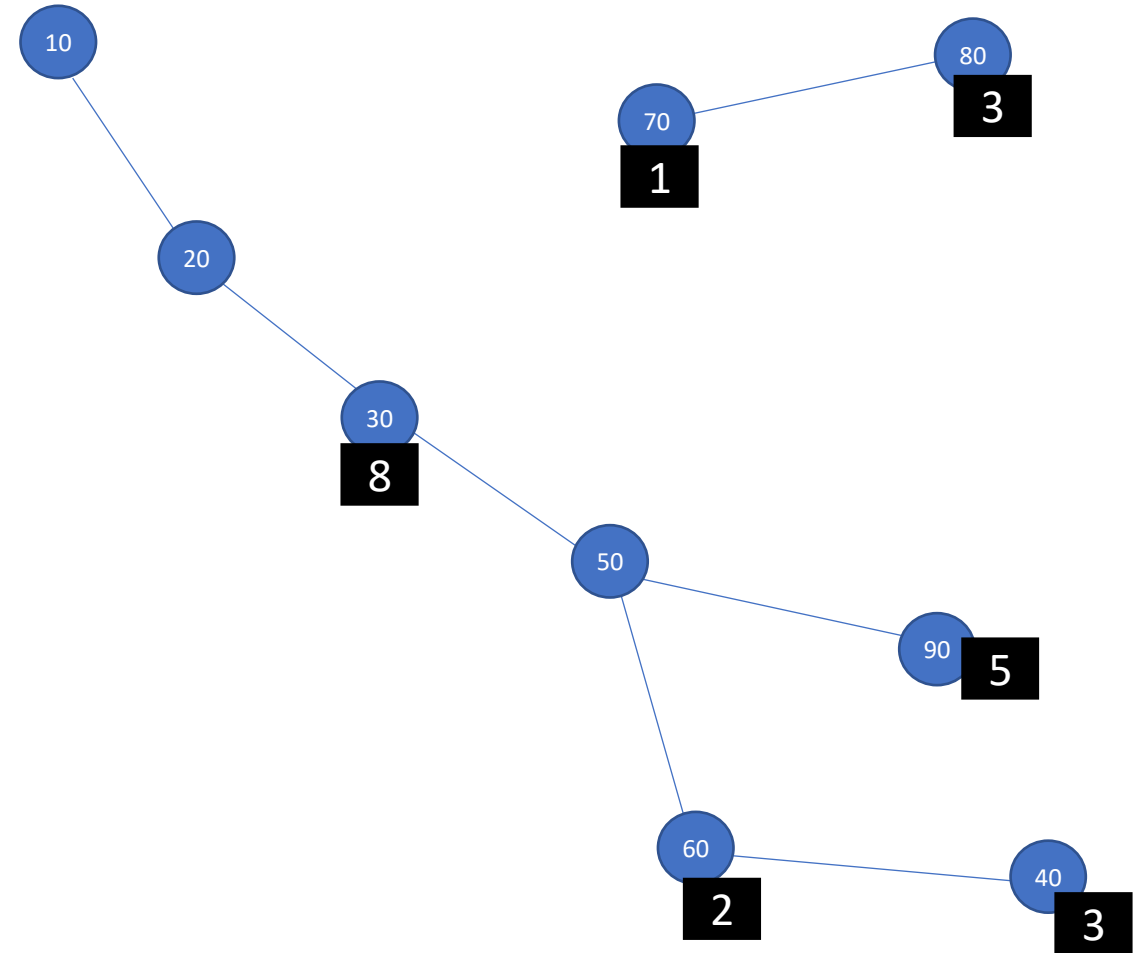
Acceptance Criteria

- Response JSON includes number of customers downstream of the selected node.
 - Direction of traversal is away from the root node.
 - In example network opposite (and on following page), where 10 is the root node, the number of customers downstream of selected node 50 is 10.



Example Request JSON

```
{
  "network": {
    "branches": [
      {"startNode": 10, "endNode": 20},
      {"startNode": 20, "endNode": 30},
      {"startNode": 30, "endNode": 50},
      {"startNode": 50, "endNode": 60},
      {"startNode": 50, "endNode": 90},
      {"startNode": 60, "endNode": 40},
      {"startNode": 70, "endNode": 80}
    ],
    "customers": [
      {"node": 30, "numberOfCustomers": 8},
      {"node": 40, "numberOfCustomers": 3},
      {"node": 60, "numberOfCustomers": 2},
      {"node": 70, "numberOfCustomers": 1},
      {"node": 80, "numberOfCustomers": 3},
      {"node": 90, "numberOfCustomers": 5}
    ]
  },
  "selectedNode": 50
}
```



For Developers

- How would you implement this? What might the response JSON look like?
- Please prepare some code and any other materials required to aid discussions and explain your approach.
- Focus is on your approach and communication of ideas.