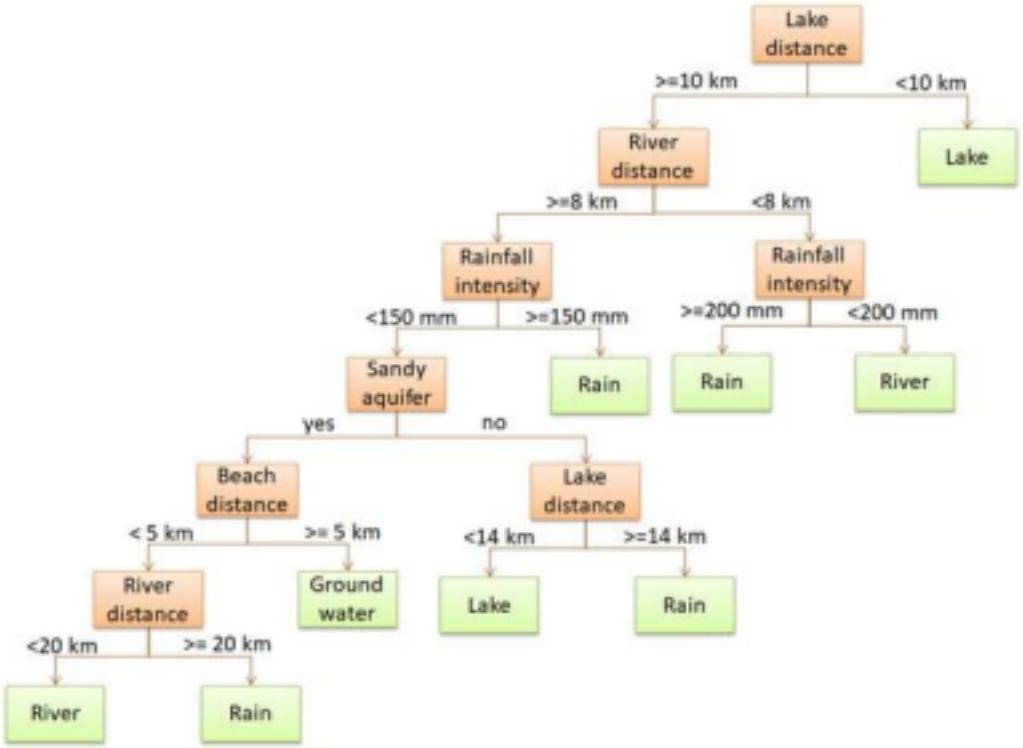
Artificial and Computational Intelligence
Assignment 2

Problem statement 2: Logic

The figure below is a Decision Tree created to predict which water resource a location is most suitable to utilize. For example, if there is a case where a location has features: 120 mm/month rainfall, sandy aquifer, 10 km away from the perennial river, 20 km away from the lake, and 2 km away from the beach, could you decide which water resource suitable for the community to take from, rainfall, river water, lake, or groundwater? Use the below decision tree and create Prolog rules to predict which water source is best for the community under the given conditions. Take the attribute values from user by giving suitable user prompts and predict the water source.



Reference: https://www.analyticsvidhya.com/blog/2021/04/distinguish-between-tree-based machine-learning-algorithms/

Evaluations will be based on the following.

1. Derive the rules from the given decision tree and code as Prolog rules. (35% marks)

Important Note:

- The implementation code must be completely original and executable.
- Please keep your work (code, documentation) confidential. If your code is found to be plagiarized, you will be penalized severely. Parties involved in the copy will be considered equal partners and will be penalized severely.