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Question 1

The output is as follows:

Gene Types for Robin: VKORC1 A/A and CYP2C9 *1/*2

Question 2

Part a:

NUM_CLIENTS	Accuracy (when NUM_EPOCHS =5)
5	33.84615480899811% (test accuracy)
25	58.44155550003052% (test accuracy)
50	70.72368264198303% (test accuracy)

Part b:

NUM_EPOCHS	Accuracy (when NUM_CLIENTS =5)
5	25.45454502105713%
25	83.05084705352783%
50	80.0000011920929%

c) Part a shows that increasing the number of clients has a favorable impact on test accuracy, implying that a bigger and more diversified range of clients adds to greater model generalization.

Increasing the number of training epochs greatly increases the model's performance in part b. However, there may come a point where the improvement from 25 to 50 epochs is not as significant. Furthermore, training for too many epochs may result in overfitting.

Question 3

The output looks as follows:

Gender Probabilistic Difference: 0.19451574596420296

Biased towards female groups

Race Probabilistic Difference: 0.13104024934411654

Biased towards Black population