Project 2

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For this assignment I am just going to give a quick run down of what I have been working on in my Genetic Program(GP). An overview of the addition of a conditional as well as the evolution of my populations. Mutation, crossover, selection, and elitism will all be part of my generational model. I will be using a generational model with elitism. More details can be found below.

CONDITIONAL   For my conditional I chose to go with a simple if statement that utilizes a less than between its two values. For now I believe the left hand side will just be the input, while the right will be a generated tree. Therefore another two trees will be generated, one for use as a then statement and another as an else.

MUTATION   For now what I wish to do with mutation is with some probability, change the type of node that a certain node is. This would be completely random and with elitism couldn't hurt the new generation that much if I create a worse individual.

CROSSOVER   This is very easy to conceptualize because all that is being done is two random numbers are being generated and those two nodes from each tree are being swapped at that point. Doing so with a breadth first search on an individual to number the nodes will hopefully help in switching lower in the tree and not higher.

SELECTION   I used Tournament selection to select my new generation. Before I do this however I copy over the best individual twice. Then I pick five random individuals and take the best of them and repeat this process until I have a full generation to copy into the population.