The State University of New York at Binghamton
Department of Computer Science
CS 520 – Spring 2019
Project #1: Branch Prediction

By

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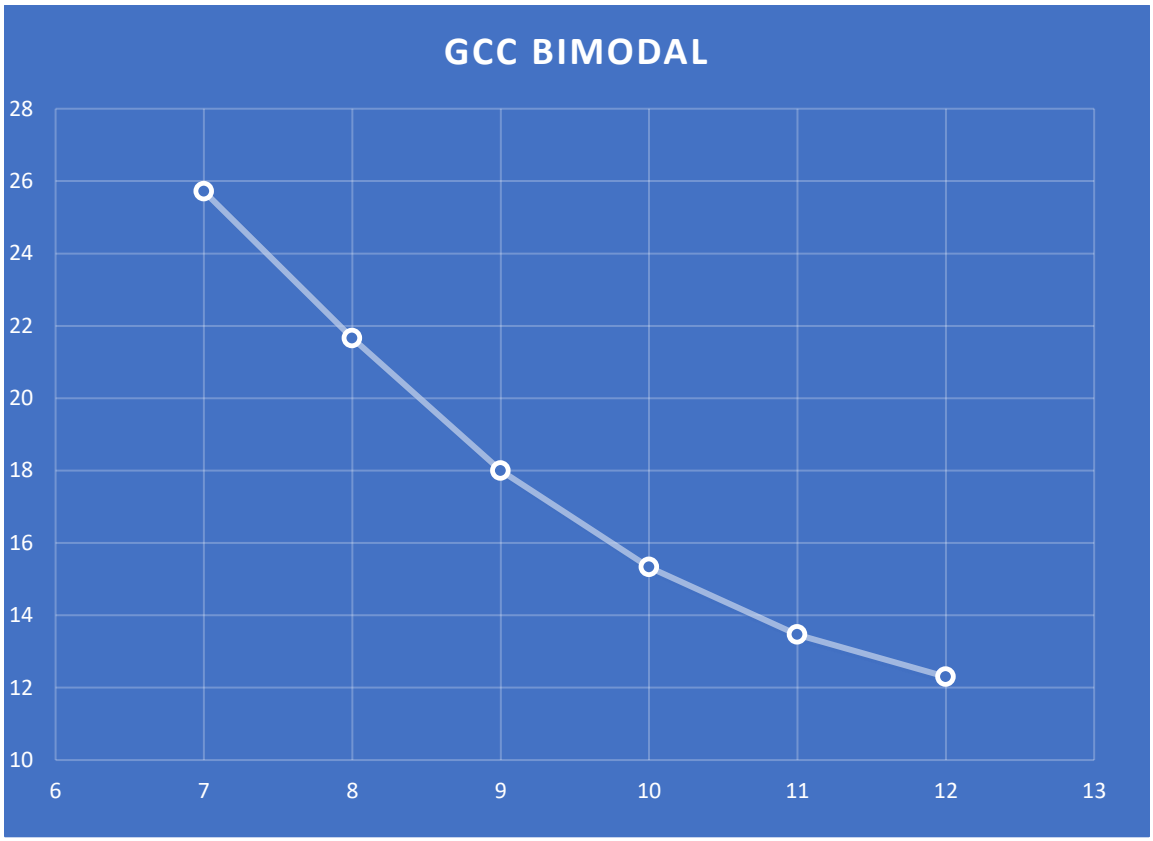
Honor Pledge: I have neither given nor received unauthorized aid on this test or assignment.
Student's electronic signature: __Nitin goyal___ (sign by typing your name)

Graphs & Analysis

1) Test cases complied on local machine and remote.cs.binghamton.edu



Analysis:

the value of m increases, the number of mispredictions decreases at a nearly constant rate. So we can say that the number of mispredictions is inversely proportional to the value of m. Number of mispredictions are high in comparison with other benchmarks

➔ number of misprediction = 1 / m

2) Test cases complied on local machine and remote.cs.binghamton.edu

Graph:

Analysis:

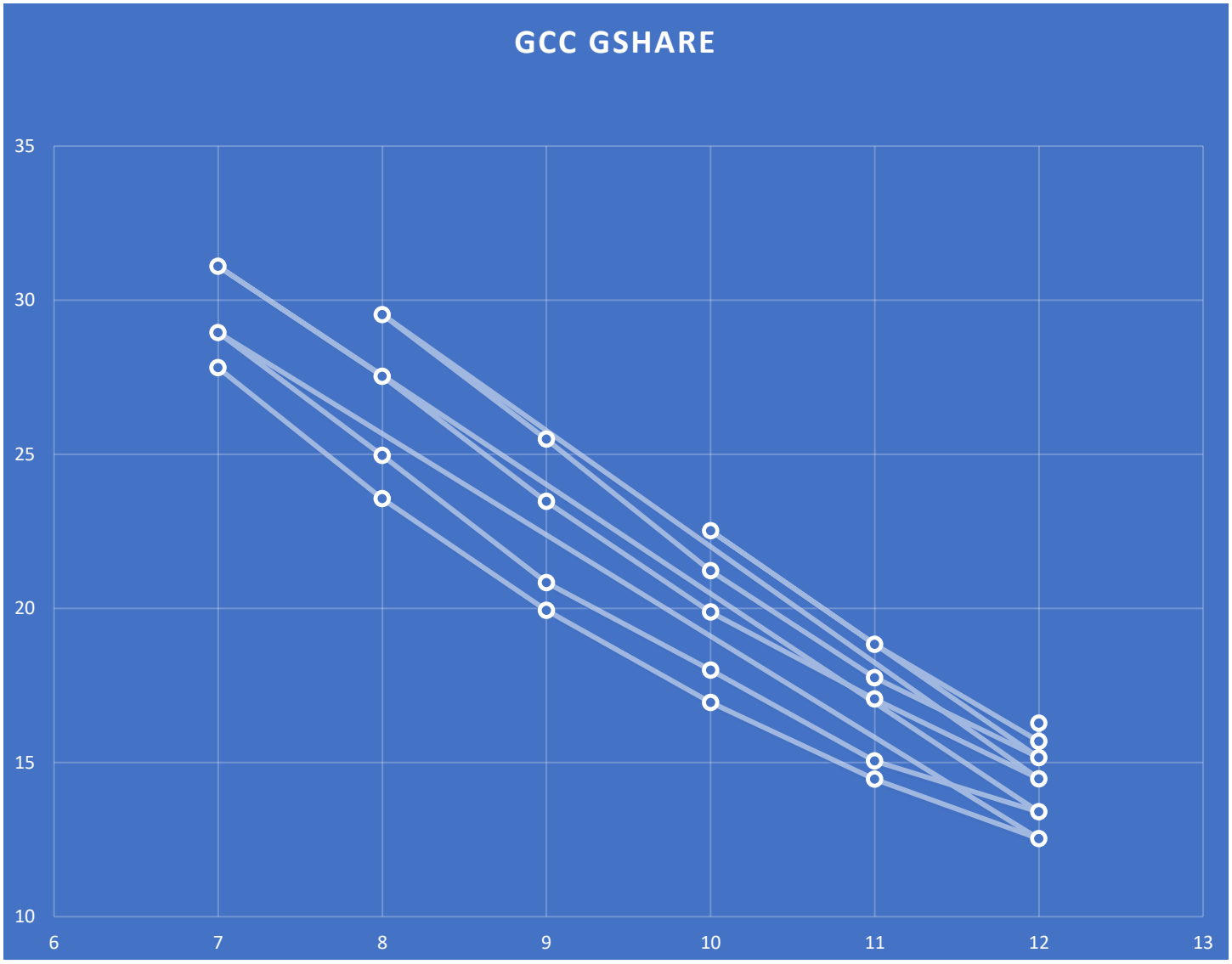
The value of m increases, the number of mispredictions decreases So we can say that the number of mispredictions is inversely proportional to the value of m.
Number of misprediction = 1/m

3) Test cases complied on local machine and remote.cs.binghamton.edu

Analysis:

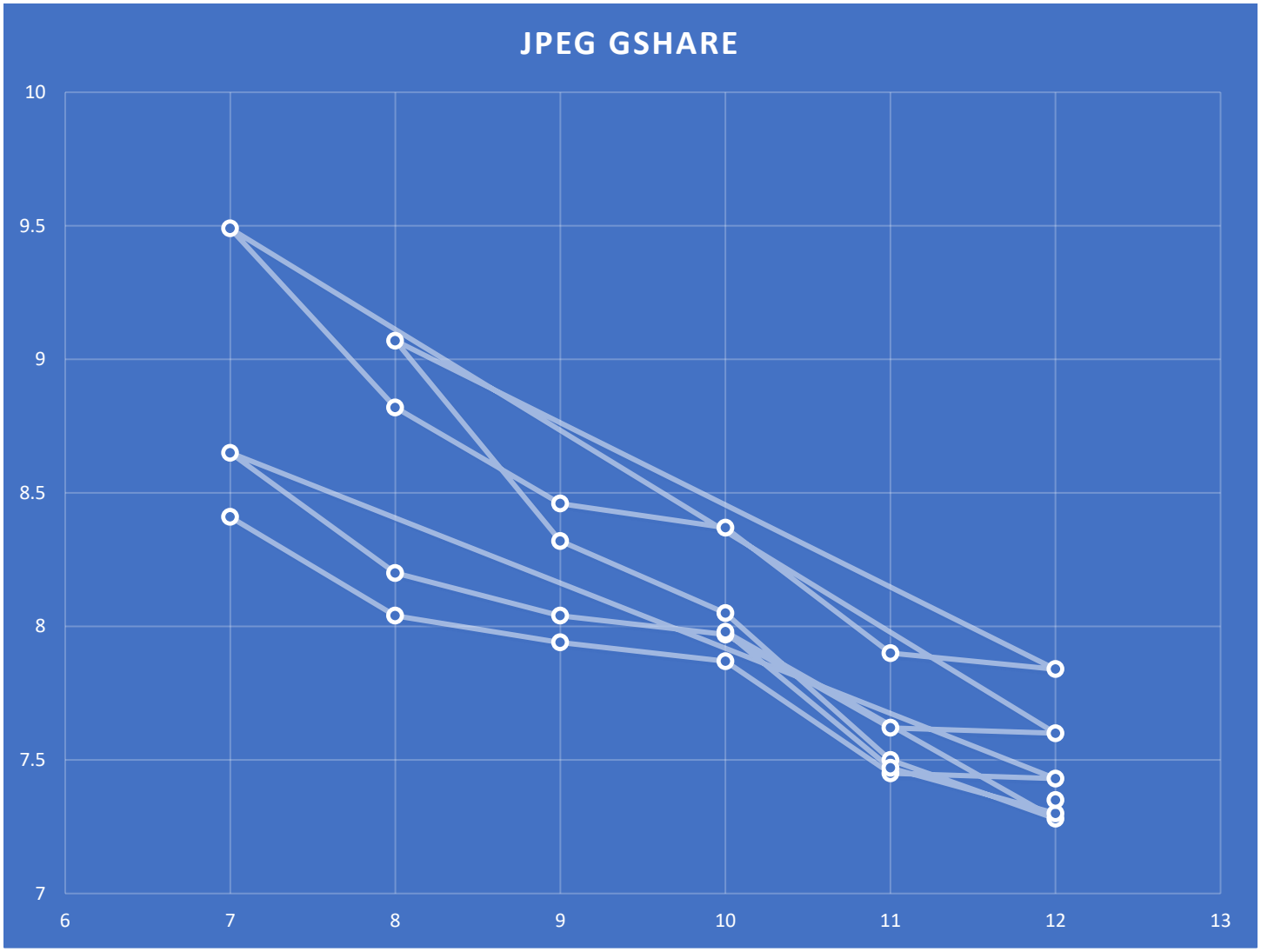
the value of m increases, the number of mispredictions decreases, like the cases of other benchmarks, but is more similar as the case of GCC BIMODAL. So we can say that the number of mispredictions is inversely proportional to the value of m.

the benchmark with the least rate of mispredictions is JPEG. And the benchmark with the highest rate of mispredictions is GCC.



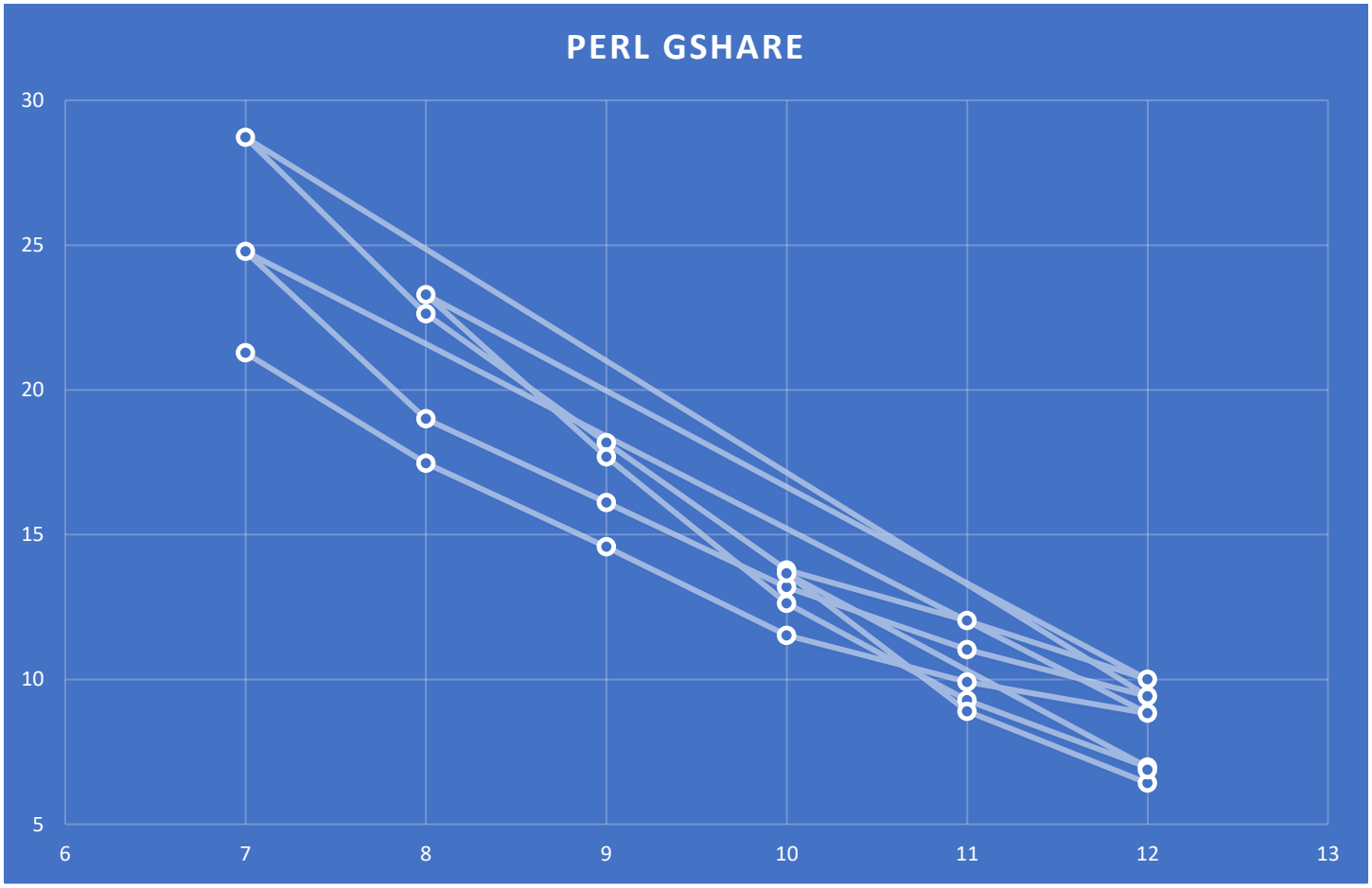
Analysis:

the value of m increases, the number of mispredictions decreases nearly constantly. So we can say that the number of mispredictions is inversely proportional to the value of m. least the value of n fewer will be misprediction rate.



Analysis:

the value of m increases, the number of mispredictions decreases nearly constantly but the rate of mispredictions are very low. So we can say that the number of mispredictions is inversely proportional to the value of m. least the value of n fewer will be misprediction rate.



Analysis:

In the above graph, we can see that as the value of m increases, the number of mispredictions decreases nearly constantly. So we can say that the number of mispredictions is inversely proportional to the value of m. least the value of n fewer will be misprediction rate.

In GSHARE, the benchmark with the least rate of mispredictions is JPEG. And the benchmark with the highest rate of mispredictions is GCC.
least the value of n fewer will be misprediction rate.