**Effects of Prediction Table Size**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 32 Entries | 64 Entries | 128 Entries |
| Sample 1 | 1160991 | 1128480 | 1127473 |
| Sample 2 | 1145276 | 1140907 | 1138972 |
| Sample 3 | 1283147 | 1268969 | 1264178 |
| Sample 4 | 3589406 | 3538348 | 3530615 |
| Large Sample 1 | 105402700 | 103703599 | 103703513 |
| Large Sample 2 | 116974556 | 115530363 | 115116953 |

This table shows how many cycles each sample took to terminate with different sizes of the prediction table

The graphs below show the effect of number of entries in the prediction table on the number of cycles to complete the simulation for each sample.

These graphs make it clear that the difference in performance between a prediction table of size 64 and 32 is greater than the difference in performance between table of size 128 and 64. The average percentage decrease of cycles to complete each sample between size 32 and size 64 prediction tables is 1.4191%, while the average percentage decrease between size 128 and size 64 is only 0.2021%. Increasing the size of the prediction table has diminishing returns: the increase from size 32 to size 64 has a significant impact on performance, but the increase from size 64 to size 128 has a much less significant impact on performance.