**CS575 Project 5**

**Chiu-Chun, Chen**

**Email: chenchiu@oregonstate.edu**

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1. **Tell what machine you ran this on**

**Text

Description automatically generated**

1. **Show the table and the two graphs**



1. **What patterns are you seeing in the performance curves?**

In the above figures, I am seeing a huge capacity on the performance. Even though there have been 4 million plus trials, the outcomes are continually growing. Nevertheless, the maximum performance of the program executing on the GPU (using rabbit) appears to be limited to 128 blocks. When the data size is large, the software performs better than when the data size is small.

1. **Why do you think the patterns look this way?**

The reason why I think the patterns look this way is because I'm working with a GPU, which can handle enormous data sets. With that, once the block size is appropriate for the data amount, more data usually means higher efficiency. In addition, for parallel computing, many data sets can be collected at the same time and stored in different blocks. The primary reason for this is that the number of trials and block sizes are both growing.

1. **Why is a BLOCKSIZE of 8 so much worse than the others?**

Because BLOCKSIZE 8 indicates that there are only 8 threads per block, and more threads per block means greater performance. Here, the lowest number of BLOCKSIZE is 8, so this is the reason why it is significantly lower than the others.

1. **How do these performance results compare with what you got in Project #1? Why?**

Because this project (project#5) uses CUDA to compute some functions, the GPU permits a large number of threads to do our calculation, and GPU chips are specialized to handle streaming data, the performance is significantly better than project#1.

1. **What does this mean for the proper use of GPU parallel computing?**

It signifies that GPU is capable of handling large amounts of data.