



Key: 1 data point equals to roughly 100,000,000 nano seconds. The run time was roughly the same as the first homework when looking at the run time. It's a linear run time when looking at the graph, the first thing to recall is that the original algorithm  $D$  (representing our number of pogo sticks) and  $N$  (being the next goal) run time wise was  $\Theta(D^N)$ . Yet when adding this new coins method for each pogo stick. The run time is still  $D^N$ , but now having some added extra time on the side, which we will represent as  $C$  (coins). So the new run time in respects to the graph is  $\Theta(D^N + C)$ .