CS342 -OS

Project 1

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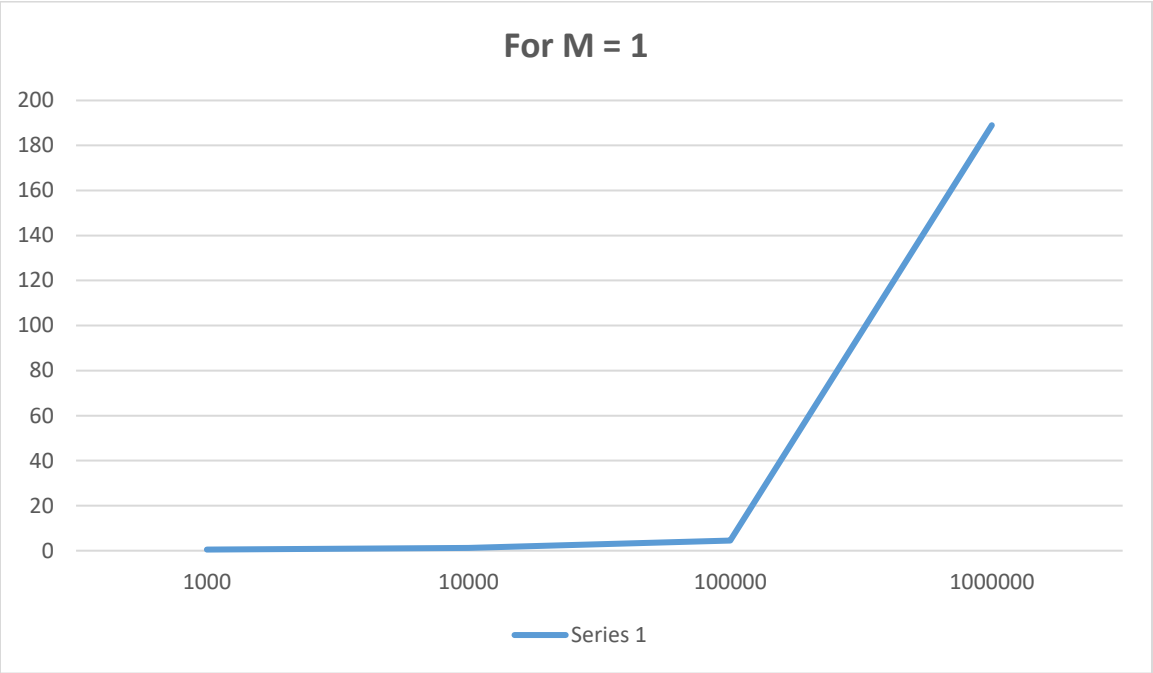
Section1

Part A

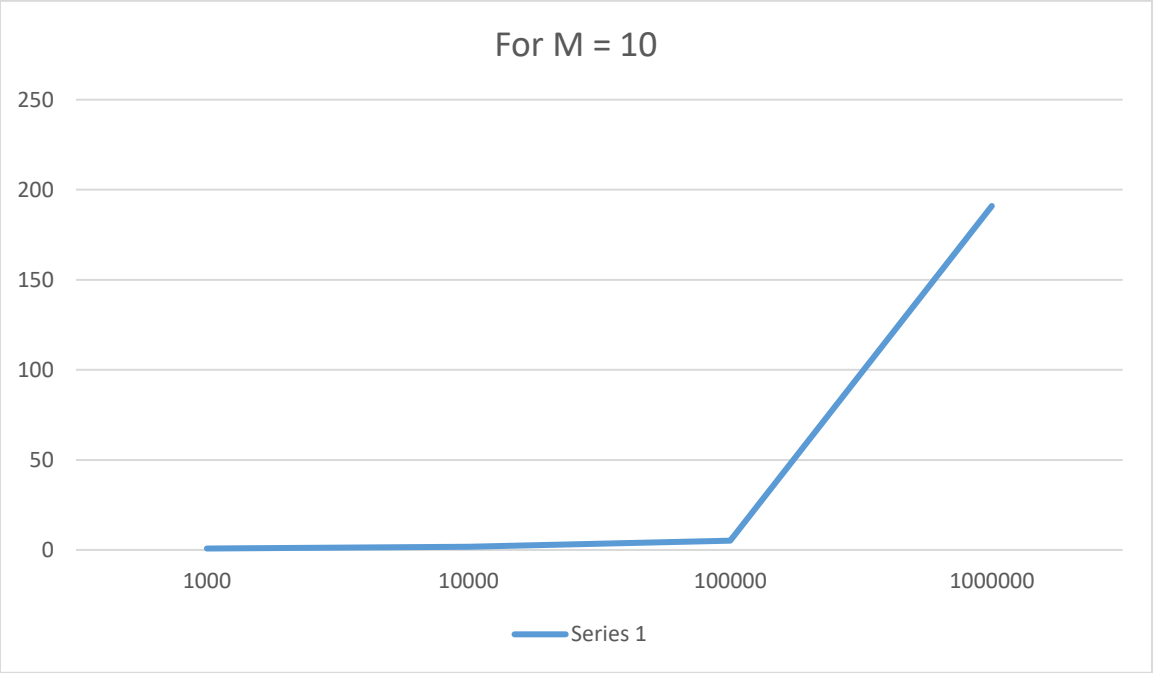
For M = 1

Value of N	Time Taken (Seconds)
1000	0.5
10000	1.2
100000	4.5
1000000	189



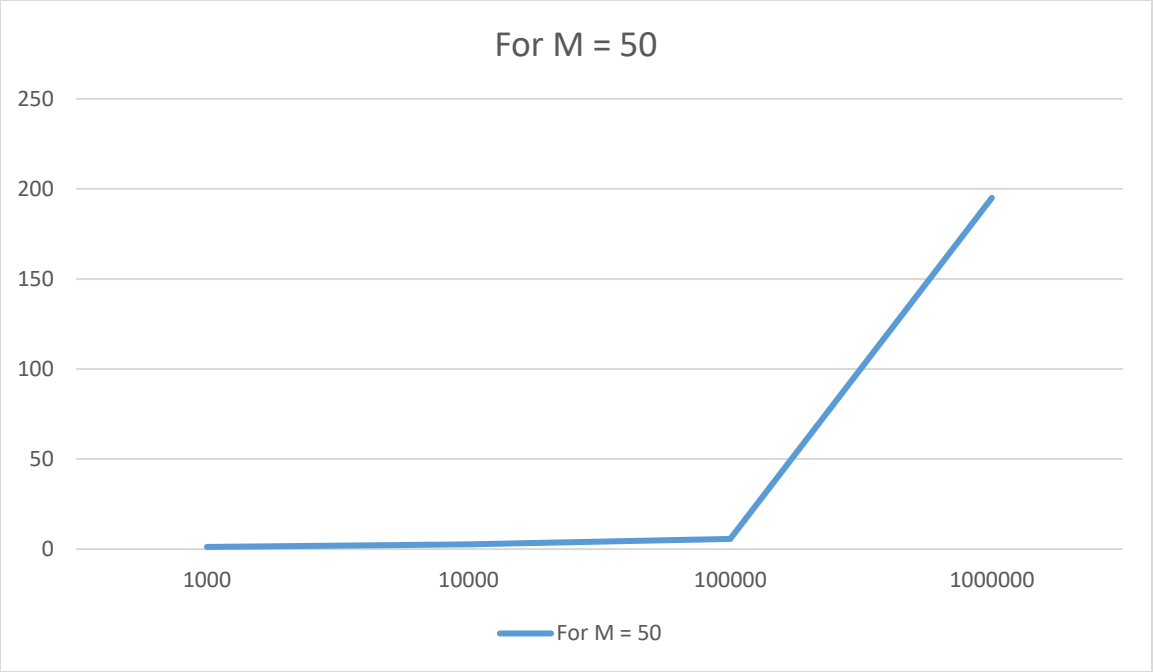
For M = 10

Value of N	Time Taken (Seconds)
1000	0.8
10000	1.8
100000	5.2
1000000	191



For M = 50

Value of N	Time Taken (Seconds)
1000	1.2
10000	2.6
100000	5.6
1000000	195



Explanation

From all the graphs it can be seen that the time taken for the process to complete is more dependent on the value of N i.e the largest value compared to the value of M i.e the number of child processes. This is because after the first traversal of the link list all the M child processes have a prime and its multiples attached to it and any number after that is added to a new position i.e copied to the end the link list. This frequent insertion to the end of the link list results in a larger run time.