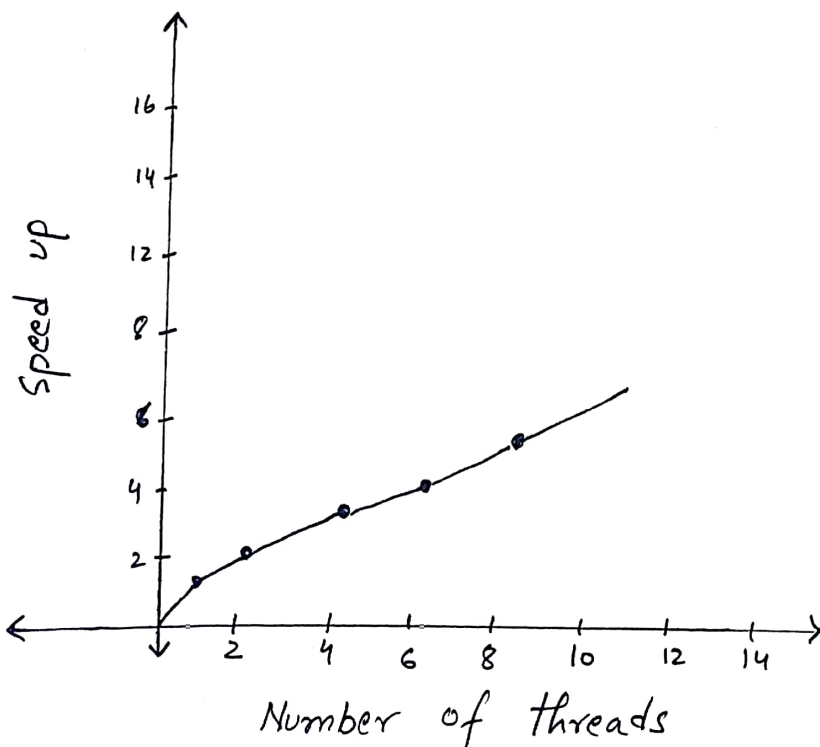Name: Ammar Ahmed
CMS: 023-19-0107
Sec: 'A'

Amdahl's Law Observation

- These are the following results obtained by executing the program with 1, 2, 4, and 6 threads

Simulation	# of threads	time taken (ms)
1	1	1.93
2	2	1.67
3	4	1.47
4	6	1.39

- following is the graph depicting the performance gain by adding additional threads in the program:

Speed up vs Number of threads

Keeping $S = 0.05$

$$* \quad \frac{1}{0.05 + \frac{(1-0.05)}{1}} = 1$$

$$* \quad \frac{1}{0.05 + \frac{(1-0.05)}{2}} = 1.9$$

$$* \quad \frac{1}{0.05 + \left(\frac{1-0.05}{4}\right)} = 3.5$$

$$* \quad \frac{1}{0.05 + \frac{(1-0.05)}{6}} = 4.8$$