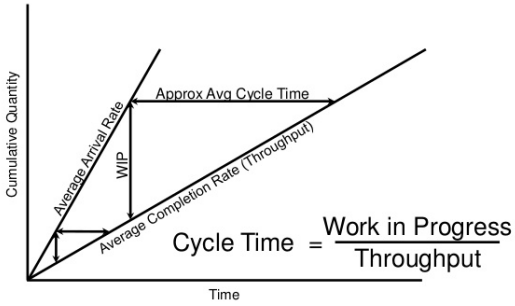
Lab 3: Little's Law

The law itself is named after John Little – an MIT professor who first mathematically proved the law in 1961. The law existed beforehand, but until Little there wasn't a set mathematical definition of it or proof for its validity.
Little defined the law while doing operations research on traffic control signals, hence the basis of it as a way to analyse queueing systems.

Analyse the following problems in groups,

1. Work on the deduction process from Page 21 to Page 22 in Lecture 4.
2. Through flight schedule analysis, it was calculated that **three B-2 bombers** would be **under maintenance** at any given time. The rate at which **bombers entered maintenance** was also calculated to be **roughly every 7 days**. So what is λ, L and W?
3. Little's law can be used to calculate WIP, throughput, and Cycle Time (or called Lead Time--the time between the initiation and completion of a production process):
    a. WIP = Throughput * Cycle Time
    b. Throughput = WIP / Cycle Time
    c. Cycle Time = WIP / Throughput

    In Kanban, setting a WIP limit can help to **deal with** business bottlenecks before they become a problem.



How can we use WIP to improve system performance? Give one example to demonstrate your idea.

Submission:
Summarise all the answers on a one-page document (per group). Your report can cover the following details but not limited to:

a. Your group member, responsibility of each team member and contribution in percentage.
b. Answers for Question 1, 2 and 3.

Deadline: 19th October 2018

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