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P vs. NP Solution

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Abstract: The P vs. NP problem is to find the answer to a search problem without searching. To find the needle in a hay stack without searching; which can be achieved with the use of a powerful magnet. Therefore the P vs. NP solution is to define the details of the computer equivalent "magnet," for its use in solving NP complete, NP and P problems. This article provides a general formula which can be adapted to reduce the amount of time spent in solving each type of problem (NP complete problems, NP problems and P problems).

Keywords: Polynomial time problem (P); Non deterministic polynomial time problem (NP); Magnet; Input; Voltage; Manipulation; IMSG pathway; Architecture; Multiplier; Complexity; Von Neumann architecture

I. INTRODUCTION

A "Computer magnet," used to solve a search problem without searching and a multiplier - in the maximum rate of progress formula (MRP) - taking the form of specialized computer circuits. Where a specialized computer circuit is a circuit meant for a particular class of problems e.g. NP complete problems. For a computer to be useful, it would have more than one specialized circuit; say 2, 3, 4 or n specialized circuits. Unlike the Von Neumann architecture where the computer is reprogrammable and is purposed for generic use. The proposed solution is a formula that has the following base units: [Joules/(second squared)].

Maximum rate of progress (MRP) = (WKIMSG/t) [Joules/(second squared)]
Therefore, MRP = Acceleration of progress = used energy per second squared

The higher the MRP, the faster the rate of progress.

II. PROPOSED SOLUTION

Solving a search problem without searching. Cast your mind to the needle in a haystack which can be found using a powerful magnet. The computer equivalent magnet must be identified to be used. Therefore something must be made that is specialized for the task at hand as the magnet is specialized to attract metal [1,2].
IMSG pathway = a circuit pathway that has an input, manipulation of input, saving and getting procedure.
Input = 1 or 0. Or High voltage or low voltage
Manipulation of input = the processing of an input by logic gates
Saving = saving a manipulated input
Getting = getting a saved manipulated input
This formula focuses on numbers, power and time

MAXIMUM RATE OF PROGRESS = (WKIMSG/t) [Joules/(second squared)]

W = maximum amount of active IMSG pathways (Work in progress) [dimensionless]
K = amount of IMSG pathways (Key) [dimensionless]
I = the range of input values (difference between highest input voltage and lowest input voltage) [dimensionless]
M = maximum potential total power consumed during manipulation of inputs by circuits (Manipulate range of input values) [J/s] or [[kg(m^2)/(s^3)]]
S = maximum potential total power consumed during saving values by circuits (save manipulated range of input values) [J/s] or [[kg(m^2)/(s^3)]]

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G = maximum potential total power consumed during getting of values by circuits (Get saved manipulated range of input values) [J/s] or [kg(m^2)/(s^3)]

t = total time taken for all steps to be completed [seconds]

Therefore, maximum rate of progress base units = [kg(m^2)/(s^4)] or [J/(s^2)] giving,
Acceleration of progress = used energy per second squared = maximum rate of progress = MRP
The higher the number (MRP), the faster the rate of progress.

To increase the rate of progress, a multiplier must be included in the formula to decrease the complexity of the task. This is where computer architecture comes in. The Von Neumann architecture is used in modern computers. The circuitry is reprogrammable creating a general purpose computer (a computer that is fast at some tasks but slow at other tasks). This problem can be solved by identifying all classes of problems and including a specialized circuit in a computer for each. These computers will take up more physical space, but they would be more efficient in solving problems. The multipliers, or the "computer magnets," are the specialized circuits.

III. AIM OF THE FORMULA (MRP)

(Time taken for: 2 + 2 = 4) = (Time taken for: 2354562465235 * 135135134134 = ...) For example

Or

(Time taken for: 2 - 2 = 0) = (Time taken for: 2354562465235 / 135135134134 = ...) For example

IV. CONCLUSION

Acceleration of progress = MRP = (WKIMSG/t) [joules/(second squared)]
With that, it is the computer architect's job to identify the optimal W, K, I, M, S and G to obtain the desired t.

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