July2023 CSE300 Week9 Online Evaluation

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DNA vs RNA Comparison



(a) Deoxyribonucleic acid



(b) Ribonucleic acid

SPEC CPU Benchmark

Table 1: SPECINTC2006 benchmark programs.

Name	Details		
	Description	Instruction Count	Reference Time
gcc	GNU C Compiler	794 G	$8050 \sec$
h264avc	Video Compression	3793 G	22130 sec

This table is taken from [1].

Table 1 shows some of the SPEC CPU benchmark programs that we can use to assess the execution performance of different computational processors.

Newton's Law of Universal Gravitation

Newton's law of universal gravitation states that any two particles in this universe attract each other with a force that is proportional to the product of their masses and inversely proportional to the square of the distance between their centers. This is one of the foundational laws in classical physics that was first described and formulated in Sir Isaac Newton's famous *Principia* book [2].

The equation takes the form $F_g = G \frac{m_1 m_2}{r^2}$ or $F_{ab} = -G \frac{m_a m_b}{|r_{ab}|^2} \hat{r}_{ab}$ among many other forms.

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1. Citation about SPEC CPU Benchmark

• Authors: David A. Patterson, John L. Hennessy

• Title: Computer Organization and Design MIPS Edition

• Publisher: Morgan Kaufmann

Year: 2013Edition: 5th

2. Citation about Universal Gravitation

• Author: Isaac Newton

• Title: Philosophiae Naturalis Principia Mathematica

• Publisher: Jussu Societatis Regiae ac Typis Josephi Streater

• Year: 1687

References

[1] J. L. Hennessy and D. A. Patterson, Computer Organization and Design MIPS Edition, 5th ed. Morgan Kaufmann, 2013.

[2] I. Newton, *Philosophiae Naturalis Principia Mathematica*. Jussu Societatis Regiae ac Typis Josephi Streater, 1687.