FOUNDATIONS OF COMPUTING P/T

TUTORIAL 2

THE INFLUENCE OF THE MECHANICAL MACHINES

The modified extract below is taken from the book *The Universal History of Computing: From the Abacus to the Quantum Computer* by Georges Ifrah, 2001, pages 172-4, 189-91, 202-3)

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1. (from page 172) Which group of people needed difference machines, and why?

2. (from pages 173 & 174) Which two things went wrong in terms of Babbage's Difference Engine project, and why did it ultimately fail?

3. (from pages 172-4 and 189) What was the difference in scale between what the Difference Engine and the Analytical Engine could cope with theoretically?

4. Use the internet to discover the link between Ada Lovelace and a computer programming language. Then try to discover her date of marriage, and see why the internet is not always a reliable source (but then text books are not always correct either!)

5. (from page 190) What did Joseph-Marie Jacquard invent and how does this tie in with 'the Analytical Engine will weave algebraic patterns'?

6. (from page 191) What were the main components of the Analytical Engine and what did they do?

7. (from page 202) Why is the term 'analysis' important here? How does it differ from synthesis?

8. (from pages 191 & 202-3) Do you think Babbage deserves the title of 'Grandfather of modern computing' for contributing the ideas behind the Difference Engine and the Analytical Engine?

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