KESTEVEN AND SLEAFORD HIGH SCHOOL

Computer Science Scheme of Learning

Year 10 – Term 4

Intent – Rationale

This term continues to develop students' programming skills, focusing on reading and writing to files, simple GUI programming and the use of SQL statements to query a database. Students also learn about different types of programming languages and the role of translators.

Sequencing – what prior learning does this topic build upon?	Sequencing – what subsequent learning does this topic feed into?
• Year 8 Topic 3 • Year 9 Topic 3	• A-Level Computer Science Programming
What are the links with other subjects in the curriculum?	**What are the links to SMSC, British Values and Careers?**
• N/A	• GB4e, GB4f
What are the opportunities for developing literacy skills and developing learner confidence and enjoyment in reading?	**What are the opportunities for developing mathematical skills?**
• Python Programming (Third Edition) (For the Absolute Beginner) by Mike Dawson	• N/A

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Intent – Concepts

What knowledge will students gain and what skills will they develop as a consequence of this topic?

Know

- **File handling operations:** Open, read, write and close
- **SQL:** how to write SELECT statements
- **Integrated Development Environment (IDE):** Editors, error diagnostics, run-time environment and translators
- **Characteristics programming languages:** High-level languages (3/4GL), Low-level languages (1/2GL) and the role of translators: compiler and interpreter

Apply

- Be able to design and code algorithms that include basic file handling techniques, with suitable error handling for robustness
- Be able to accurately write SQL SELECT statements and use them in their coded solutions
- Be able to discuss the common features found in IDEs and how they help the programmer
- Be able to describe and compare different types of programming language and compiled versus interpreted languages

Extend

- Extend their understanding of 2GL assembler by attempting more complex problems in LMC

What subject specific language will be used and developed in this topic?		What opportunities are available for assessing the progress of stu
• Open • Mode • Read • Write • Append • SQL • SELECT • Wildcard • Ascending • Descending	• IDE • Diagnostic • Runtime • Generation • Machine code • Translator • Compiler • Interpreter	• Class Notes and in-lesson observation • Coded solutions • Teams homework assignments/quizzes • Kahoot starters/plenaries and verbal questioning

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Intent – Concepts

Lesson title	Learning challenge	Higher level challenge	Suggested activities and resources
			See P drive for lesson presentations/resources