

KS4 J277 Computer Science Learning Journey

Computer Systems
Computational Thinking, Programming and Algorithms
Programming Practical

J277/02 Exam

J277/01 Exam

Assessed Programming Task 5

J277/02—
Topic 5
Assessment

J277/02 - Topic 5 - Review of the use of high and low programming languages, how translators can be used to convert between them, and the features of IDEs used to create programs.

J277/02—
Topic 3
Assessment

J277/02—
Topic 4
Assessment

J277/02—
Topic 2
Assessment

J277/02 - Topic 3 - Review of the key concepts of defensive design (validation, verification and data sanitation) as well as how testing at regular intervals can allow for more reliable programs

J277/02—
Topic 1
Assessment

J277/02 - Topic 4 - Review of Boolean logic from the viewpoint of operators, logic gates, circuits and statements with a viewpoint on how to create them and apply them when completing truth tables.

Assessed Programming Task 4

J277/02 - Topic 2 - Review the basic programming fundamentals such as inputs, outputs, operators, selections, iterations, using files, arrays, sub programs and how data is stored using SQL.

J277/02 - Topic 1 - Review the tools of computational thinking (abstraction and decomposition) and how flowcharts and pseudocode can be used to design suitable solutions.

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J277/01—Topic 5 Assessment

J277/01—Mock Exam - June

J277/01—
Topic 4
Assessment

J277/01 - Topic 5 - Review of the different features and functions of an operating system as well as the different types of software (utility, application, proprietary and open-source programs).

Assessed Programming Task 3

J277/01 - Topic 6 - Review of the different cultural, ethical, environmental and legal issues of using computer systems and the data/assets they contain.

J277/01—Topic 3
Assessment

J277/01—Topic 2
Assessment

J277/01 - Topic 4 - Review of the different threats to computer networks (both human and system-based issues), and how simple systems can be applied to help prevent and avoid these risks.

Assessed Programming Task 2

J277/01 - Topic 3 - Review of how computer networks are constructed (types and topologies), along with the hardware, systems, configurations and protocols needed to allow for networks to function in the modern world.

J277/01—Topic 1
Assessment

J277/01 - Topic 1 - Review of the CPU and its features (components, FDE, Vonn Neumann's architecture), the impact various parts can have on performance and how embedded systems are used in the modern world.

Assessed Programming Task 1

J277/01 - Topic 2 - Review of the types of memory and secondary storage, how data is stored in binary, binary mathematics, binary conversion, how binary is used to represent images, sound and text along with compression.

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Programming Concepts 2 - Applying programming concepts in a high-level programming language. We cover how to use sub programs, string manipulation, validation and dealing with both logic and syntax errors.

Programming Concepts 1 - Applying programming concepts in a high-level programming language. We cover how to use constants, variables, data types, arrays, files, iterations and selection statements.