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| Year Group: 12 | Subject: Computer Science | Term: Autumn 2021 |
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| Topic | Key Learning points | Assessments |
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| Structure and function of the processor | <ul style="list-style-type: none"> • The Arithmetic and Logic Unit; ALU, Control Unit and Registers (Program Counter; PC, Accumulator; ACC, Memory Address Register; MAR, Memory Data Register; MDR, Current Instruction Register; CIR). Buses: data, address and control: how this relates to assembly language programs. • The Fetch-Decode-Execute Cycle; including its effects on registers. • The factors affecting the performance of the CPU: clock speed, number of cores, cache. • The use of pipelining in a processor to improve efficiency. • Von Neumann, Harvard and contemporary processor architecture. | End of topic assessment |
| Python Programming | <ul style="list-style-type: none"> • Thinking abstractly <ul style="list-style-type: none"> (a) The nature of abstraction. (b) The need for abstraction. (c) The differences between an abstraction and reality. (d) Devise an abstract model for a variety of situations. | End of topic project |