



Computer Science	Working towards expected outcomes	Working at expected outcomes	Working beyond expected outcomes
	Your child is not yet making the expected progress within this course.	Your child is achieving the expected progress for this point within the course.	Your child is exceeding the expected progress.
Year 11	Students working towards expected outcomes in Year 11 can:	Students working at expected in Year 11 can:	Students working beyond expected in Year 11 can:
<p align="center">Autumn 1</p> <p align="center">Relational Databases</p>	<p><u>Flatfile vs Relational</u>: Understands the basic difference between flatfile and relational databases but struggles to explain their advantages and use cases.</p> <p><u>Field, Record</u>: Can identify fields and records in a database but needs help understanding their roles in data organisation.</p> <p><u>Primary Key & Foreign Key</u>: Aware of the concepts of primary and foreign keys but struggles to explain their relationship in database design.</p> <p><u>SQL</u>: Can run basic SQL queries (e.g., SELECT) but needs guidance to understand more complex commands like WHERE.</p> <p><u>Python Programming</u>: Can write simple Python programs, including basic input/output, but needs support with more complex logic or functions.</p>	<p><u>Flatfile vs Relational</u>: Can compare flatfile and relational databases, explaining the advantages of relational databases (e.g., data integrity, relationships).</p> <p><u>Field, Record</u>: Understands fields and records and can describe their roles in organising data in a database.</p> <p><u>Primary Key & Foreign Key</u>: Can explain the purpose of primary and foreign keys and how they link tables together in relational databases.</p> <p><u>SQL</u>: Comfortable writing SQL queries for selecting, inserting, and updating data and understands how to sort results.</p> <p><u>Python Programming</u>: Can write Python programs that include functions, loops, and conditionals to solve problems.</p>	<p><u>Flatfile vs Relational</u>: Can analyse the strengths and weaknesses of flatfile vs relational databases and apply relational models in complex database design.</p> <p><u>Field, Record</u>: Can efficiently design a database structure, choosing appropriate fields and organising records for different types of data.</p> <p><u>Primary Key & Foreign Key</u>: Expert in using primary and foreign keys to design relational databases, ensuring data integrity and optimising relationships between tables.</p> <p><u>SQL</u>: Can write complex SQL queries for selecting, inserting, and updating data and understands how to sort results.</p> <p><u>Python Programming</u>: Proficient in writing modular and efficient Python programs.</p>
<p align="center">Autumn 2</p> <p align="center">Ethics</p>	<p><u>Cyber Security</u>: Aware that cyber security impacts privacy but struggles to explain legal and ethical implications of breaches.</p> <p><u>Mobile Technologies</u>: Understands mobile technology's benefits but needs help discussing its environmental and legal impact (e.g., data privacy).</p>	<p><u>Cyber Security</u>: Understands the ethical, legal, and environmental implications of cyber security breaches, including privacy laws and data protection.</p> <p><u>Mobile Technologies</u>: Can discuss the legal and ethical issues, such as data privacy and security risks, in the context of mobile technologies.</p>	<p><u>Cyber Security</u>: Expert in analysing the ethical, legal, and environmental impacts of cyber security, with a focus on privacy, digital rights, and data protection laws globally.</p> <p><u>Mobile Technologies</u>: Can critically evaluate the legal, ethical, and environmental issues related to mobile technologies, including global data protection laws and sustainability concerns.</p>



	<p><u>Wireless Networking:</u> Can identify some security risks but is unclear about legal or environmental concerns of wireless networks.</p> <p><u>Cloud Storage:</u> Knows that cloud storage involves data management but struggles with the ethical implications of data access and privacy.</p> <p><u>Hacking:</u> Understands that hacking is illegal but lacks knowledge of its ethical implications or potential consequences.</p> <p><u>Wearable Tech:</u> Can identify the basic uses of wearable tech but is unsure about the ethical concerns around privacy or health data.</p> <p><u>Computer-Based Implants:</u> Aware of the concept but unsure about the ethical, legal, and environmental implications.</p> <p><u>Autonomous Vehicles:</u> Knows about autonomous vehicles but needs help discussing their ethical concerns (e.g., decision-making in accidents).</p>	<p><u>Wireless Networking:</u> Can explain the environmental impacts (e.g., energy consumption) and security risks (e.g., data interception) of wireless networking.</p> <p><u>Cloud Storage:</u> Understands the ethical concerns (e.g., data ownership, privacy) and legal issues around cloud storage, including regulations like GDPR.</p> <p><u>Hacking:</u> Can explain the legal consequences of hacking and understands the ethical debates around ethical hacking or “white-hat” hackers.</p> <p><u>Wearable Tech:</u> Can explain privacy concerns and health data issues with wearable tech and understands the potential environmental impact (e.g., e-waste).</p> <p><u>Computer-Based Implants:</u> Understands the ethical, legal, and health concerns related to the use of computer-based implants (e.g., data security, body autonomy).</p> <p><u>Autonomous Vehicles:</u> Can explain the ethical implications (e.g., decision-making algorithms) and legal concerns (e.g., liability in accidents) of autonomous vehicles.</p>	<p><u>Wireless Networking:</u> Fully understands the environmental and legal impacts of wireless networking, including security issues, energy consumption, and the regulation of wireless spectrum use.</p> <p><u>Cloud Storage:</u> Can critically assess the ethical and legal challenges of cloud storage, including data sovereignty, global compliance, and environmental impacts of data centres.</p> <p><u>Hacking:</u> Deep understanding of the ethical, legal, and societal implications of hacking, including the role of ethical hackers, cybersecurity laws, and the consequences of breaches.</p> <p><u>Wearable Tech:</u> Can critically assess privacy, health data security, and environmental concerns surrounding wearable tech, including how laws like GDPR apply to health data.</p> <p><u>Computer-Based Implants:</u> Has a deep understanding of the ethical, legal, and environmental implications of computer-based implants, including privacy, consent, and body autonomy issues.</p> <p><u>Autonomous Vehicles:</u> Can evaluate the complex ethical, legal, and environmental impacts of autonomous vehicles, including safety concerns, regulation, and the future of transportation.</p>
<p>Spring 1 & Spring 2 Revision Programming Exam Preparation</p>	<p><u>Understanding Key Concepts:</u> Demonstrates basic understanding of key concepts in Computer Science, such as algorithms, data representation, and programming but requires support to apply them effectively.</p>	<p><u>Understanding Key Concepts:</u> Has a solid understanding of key concepts in Computer Science and can apply them to solve problems and explain how they work.</p> <p><u>Programming Skills:</u> Proficient in writing Python programs, using key structures (e.g., loops,</p>	<p><u>Understanding Key Concepts:</u> Demonstrates deep understanding of key Computer Science concepts and can analyse and discuss them critically in a variety of contexts.</p>



	<p>Programming Skills: Can write simple Python programs using basic structures (e.g., loops, conditions, functions) but struggles with more complex tasks and debugging errors.</p> <p>Theory Knowledge: Has a general understanding of topics like hardware, software, and network protocols but needs guidance when applying this knowledge to real-world scenarios.</p> <p>Problem-Solving: Can follow instructions to solve problems but often struggles with breaking down complex problems or optimising solutions.</p> <p>Exam Preparation: Demonstrates understanding of theory but may require more practice in applying knowledge in exam-style questions.</p>	<p>functions, lists) and debugging code with minimal support.</p> <p>Theory Knowledge: Can apply theoretical knowledge of hardware, software, network protocols, and security to real-world scenarios and exam questions.</p> <p>Problem-Solving: Can break down complex problems and develop effective solutions, optimising algorithms for efficiency when necessary.</p> <p>Exam Preparation: Confident in answering exam-style questions and applying theory to practical scenarios but still needs occasional support in refining answers.</p>	<p>Programming Skills: Proficient in Python programming, able to write complex programs, optimise code, and troubleshoot errors independently.</p> <p>Theory Knowledge: Has advanced knowledge of hardware, software, networking, and security, and can explain and discuss their application in real-world and theoretical contexts.</p> <p>Problem-Solving: Can confidently deconstruct complex problems and develop highly efficient solutions, with a strong ability to explain and justify their approach.</p> <p>Exam Preparation: Fully prepared for the exam, able to apply theoretical knowledge in various contexts, and demonstrate a high level of problem-solving in timed conditions.</p>
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