Computing – Y9

🔗 I LINK

1. I can identify how different components work together in a system, such as CPU, Cache, RAM, HDD, etc.
2. I can connect real-life decision-making to programming logic.
3. I can use operations learned in math in coding tasks, such as long division, factorial, etc.
4. I can link pseudocode and flowcharts to Python code.
5. I can apply place value knowledge to the binary and hexadecimal number system.

🎨 I CREATE

1. I can design and create database tables with appropriate field types.
2. I can generate queries using SQL to search for specific information in the database.
3. I can write Python programs using variables, data types, and input/output.
4. I can create programs that use loops (for, while) effectively.
5. I can generate AI-assisted content and evaluate its accuracy.

🔍 I ANALYSE

1. I can analyse which factors affect the CPU's Fetch, Decode, Execute Cycle.
2. I can assess the structure of a flat database and convert it to a relational database.
3. I can choose the right data types for tasks such as creating a table and writing a Python program.
4. I can predict the output for a given Python program or Flowchart.
5. I can compare binary addition to decimal addition.
6. I can spot biased or incorrect information from AI.

📊 I EVALUATE

1. I can justify my choice of secondary storage for a specific use.
2. I can justify the need for a Primary key in a relational database and select appropriate fields for it.
3. I can improve my code after reviewing common errors.
4. I can explain why binary representation is essential in computing.
5. I can reflect on how using AI affected my learning.
6. I can evaluate the risks of over-reliance on AI tools.

I READ

Computer system:
https://www.bbc.co.uk/bitesize/articles/z9myvcw
Introduction to Programming:
https://www.bbc.co.uk/bitesize/guides/zts8d2p/revision/1
Database:
https://www.bbc.co.uk/bitesize/topics/zp8jmp3
Data Representation:
https://www.bbc.co.uk/bitesize/topics/zxnfr82

I LEARN

1. Computer System– Hardware, Software, CPU, RAM, ROM, Secondary storage, OS
2. Databases – Relational Database, Primary Key, Create a table, SQL
3. Algorithms and Python Programming- Algorithms, Flowcharts, Python- variables, data types, selection statements, iteration
4. Data Representation: Binary, Hexadecimal number system, binary arithmetic
5. AI: Prompt Writing | Responsible Use | Ethics of AI