**LAB 1**

**Use AI and apply CT in the project to choose a suitable data model.**

**Objective:**

Use **Computational Thinking (CT)** and **AI tools** to design a suitable data model for **your project (1 of 9 projects assigned)**. You will demonstrate your ability to decompose the problem, abstract key details, recognize patterns, and apply algorithmic thinking.

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| **CT Components** | **Weight** |
| Decomposition (break problem into smaller parts | 20% |
| Abstraction (identify important details & ignore irrelevant ones): | 20% |
| Pattern Recognition & Modeling (entities, relationships) | 20% |
| Algorithmic Thinking (step-by-step logical approach): | 20% |
| Report + slide | 5% |
| Team work and presentation | 5% |
| AI Utilization (using AI tools effectively ) | 10% |

**Tasks & Requirements:**

**Design a suitable data model for this system, applying CT principles and making effective use of AI tools.**

* Write a description of your project.
* Identify requirements for the project
* Overview of Computational Thinking Approach
* Overview of data models (eg: Structured Data Models, Semi-Structured Data Models, Unstructured Data Models,..), advantages and disadvantages of these types of models. Indicate what types of applications/apps are suitable for these models? Present a data model suitable for your project.
* Identify entities, relationships, and their attributes