6 Z Exercise – ANSWERS

FOR THE LECTURER ONLY

Answers for all questions within the **Exercise – Reflection on Learning**

Answer Key (For the Lecturer)

1. **b)** Face-recognition (It does one task only).
2. **c)** Graphics Processing Unit.
3. **b)** Alan Turing.
4. **b)** Interest and funding dropped due to hardware limitations.
5. **False** (It is very advanced Narrow AI, but it still lacks true "common sense" and physical world interaction).
6. **True.**
7. **True.**
8. **Answer:** The test requires a robot to enter a strange house, find the kitchen, and make coffee. ChatGPT fails because it has no physical body to interact with the world and cannot navigate new, unpredictable physical environments.
9. **Answer:** Machine Learning requires doing thousands of small calculations at the same time (parallel processing). GPUs are designed for this, whereas standard CPUs handle tasks one by one.
10. **Answer:** various below...

    The Old Way (Symbolic AI): Humans had to write down every single rule for the machine. This failed because the real world is too messy; there are too many variations (e.g., a dog might be behind a tree, or have no tail, or be a specific breed that doesn't look like a "typical" dog).

    The Modern Way (Machine Learning): Instead of rules, we give the computer **Big Data** (thousands of labelled images). The machine uses a **Neural Network** to find its own patterns and mathematical relationships within the pixels.

    Why it works: It is more successful because the machine can recognise "dog-ness" through subtle patterns that are impossible for a human to describe in a simple set of written rules.