

## 18 What AI is – Part 1 —Answers

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### Answers

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Work through these after trying the questions yourself.

**18.1** Tasks that normally need human intelligence.

**18.2** It learns patterns from data instead of being programmed step by step.

**18.3** Deep learning is part of machine learning.

**18.4** One or more hidden layers.

**18.5** When it has many hidden layers.

**18.6** A traditional program follows fixed rules written by a programmer (e.g. "if it contains this word, it's spam"). A machine-learning filter is instead trained on many labelled examples and works out the patterns itself, so it can judge new emails without an explicit rule for each case.

**18.7** Faces vary enormously in lighting, angle and expression, so listing rules to cover every case would be almost impossible. Machine learning instead learns the patterns from many example images, so it can recognise faces it has never seen before.