

7 A house has a smart speaker that can take voice commands as input. A person in the house can tell the smart speaker to play music or audio books.

(a) The smart speaker cannot be described as a robot.

Explain why the smart speaker is **not** a robot.

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(b) Identify the input device that allows voice commands to be used as input.

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(c) The smart speaker has machine learning capabilities.

Explain how the smart speaker can use machine learning to improve the voice command input.

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(d) The smart speaker is an example of an embedded system.

Explain why the smart speaker is an embedded system.

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(e) The music and audio books that are played by the smart speaker are stored in cloud storage.

Give **two** advantages of storing the music and audio books in cloud storage.

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(f) The data for the music and audio books needs to be checked for errors after being transmitted from the cloud.

(i) Explain how errors may occur in the data during transmission.

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(ii) Give **two** error detection methods that could be used to check for errors in the data after transmission.

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