Closed Loop System

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1. **Recap of Open loop System :**

Controls the amount of input that is required for the desired output

Input → Controller ---- Process → Output

Open loop System

→ processes the input in order to generate the output.

→ **Disadvantage:** it does not know when to stop
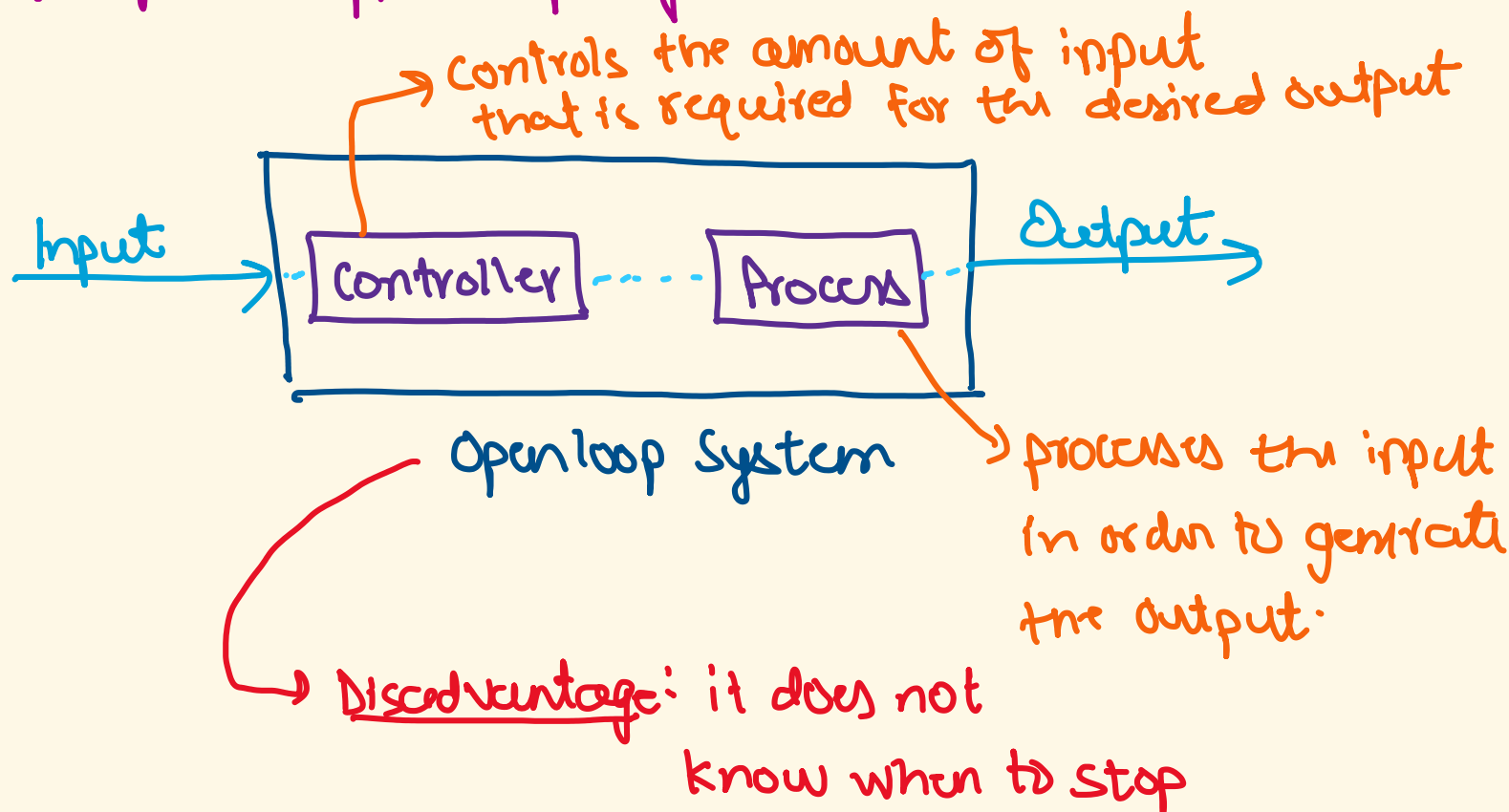
2. **Introduction of Closed Loop System :-**

Error detection Unit

INPUT → ⊗ → Controller → Process → OUTPUT
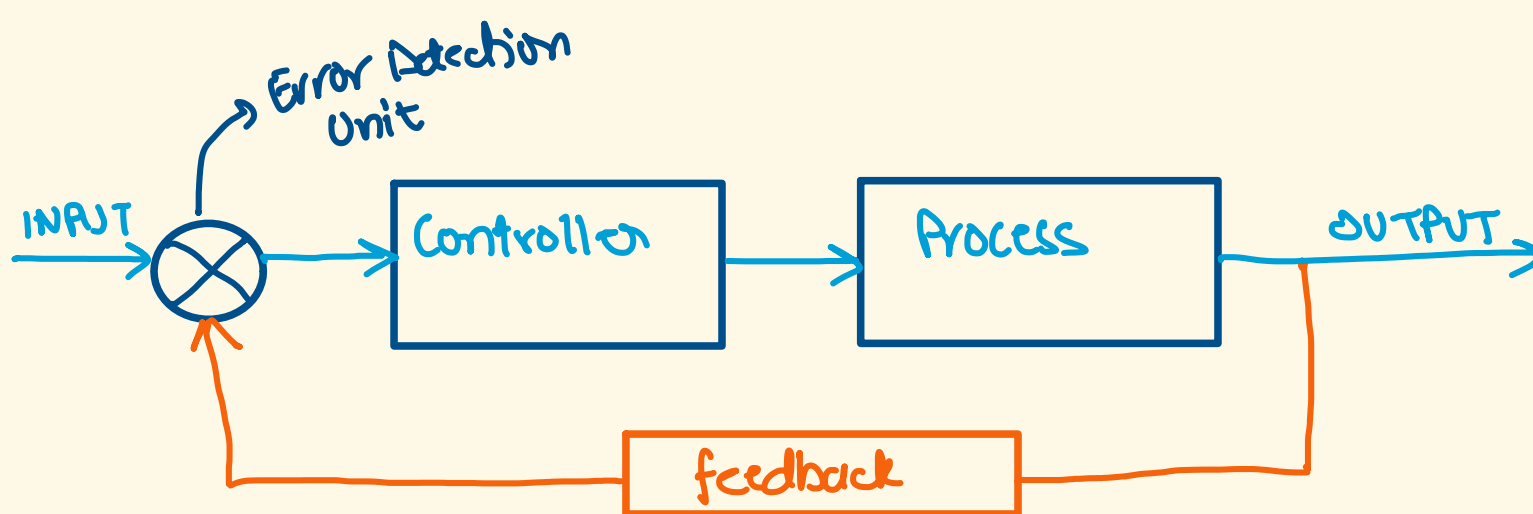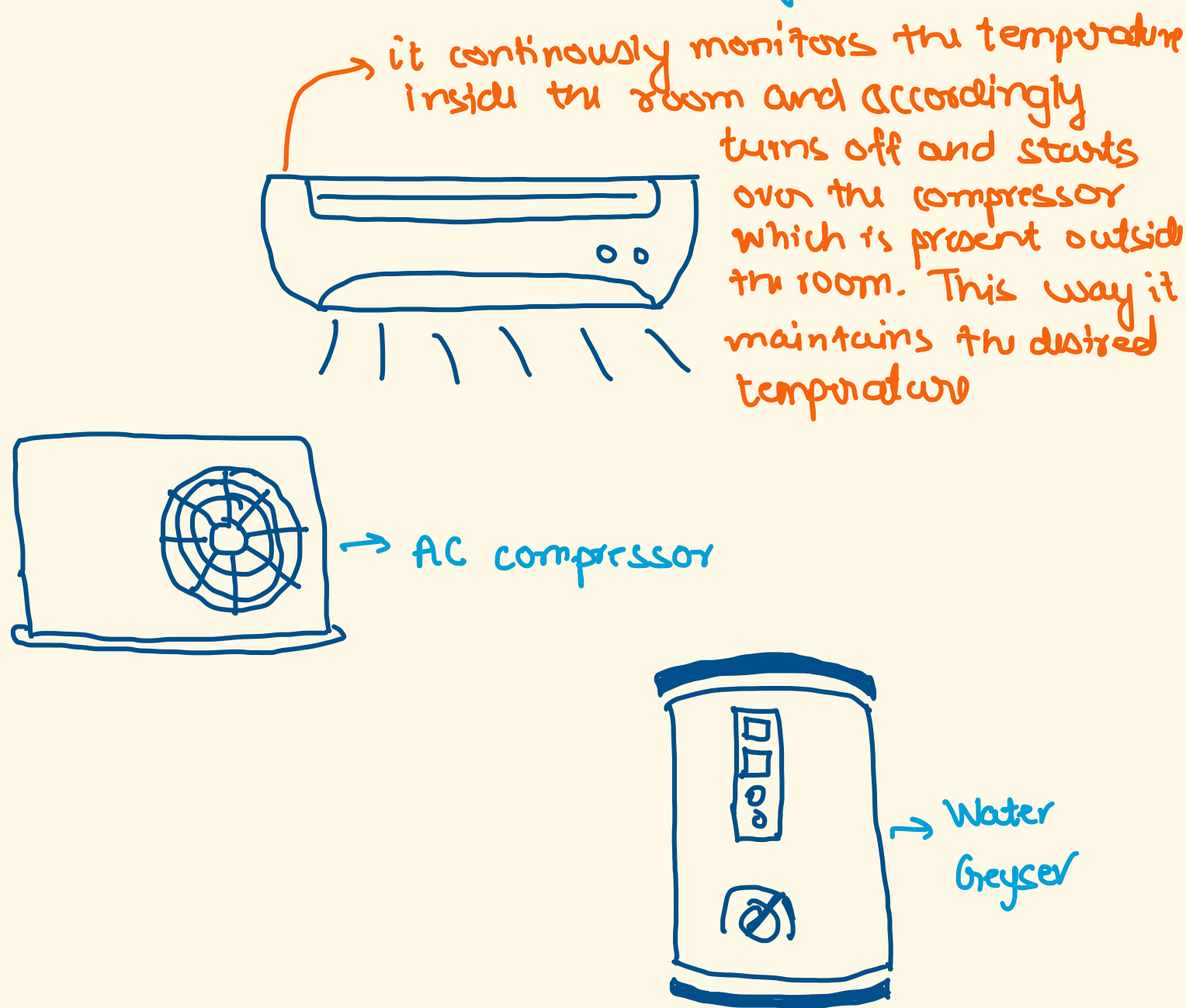
feedback

- In the closed loop system, the output is measured continuously and is fed back to the output.

- The presence of feedback compensates for the disturbance and improves the accuracy of the system.

3. **Example:** Air Conditioner, Water Geyser

it continuously monitors the temperature inside the room and accordingly turns off and starts over the compressor which is present outside the room. This way it maintains the desired temperature

→ AC compressor

→ Water Geyser

4. **Comparison:**

Open loop System	Closed loop System
1. Accuracy is low	1. Accuracy is high
2. Less Reliable	2. More reliable
3. Easy to design	3. Complex in design (because of feedback)
4. Less Expensive	4. More Expensive

5. **References:**

1. Neso Academy

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