DIFFERENCE BETWEEN FEEDFROWARD AND FEEDBACK CONTROL

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| FEED FORWARD | FEEDBACK |
| A feed forward system may measure a number of secondary variables in addition to the primary one. For example, a feed forward thermostat might measure external as well as internal temperatures, and it might sense whether doors and windows are open or closed. If the system senses that it is cold outside and someone opens a window, the system will proactively turn on the furnace in an attempt to prevent the temperature in the house from falling. Instead of waiting for the temperature to change at the thermostat, the system anticipates the effect of the open window and attempts to counteract the heat loss. | A feedback system measures a value and reacts to changes in that value.  For example, the thermostat measures the ambient temperature in the house, and if the temperature falls below its minimum setting, the thermostat activates the furnace to warm the house back to the appropriate temperature. |
| Feed forward measures a disturbance before the disturbance has influenced the system. The effect of the disturbance is thus reduced by measuring it and generating a control signal that counteracts it. | In feedback, there must be an error before corrective actions are taken. |
| the control variable adjustment is based on knowledge about the process in the form of a mathematical model of the process and knowledge about or measurements of the process disturbances. | The control variable is error-based |
| it has only feed-forward behaviour responds to its control signal in a pre-defined way without responding to how the load reacts | Feedback occurs when outputs of a system are routed back as inputs as part of a [chain](https://en.wikipedia.org/wiki/Signal_chain_(signal_processing_chain)) of [cause-and-effect](https://en.wikipedia.org/wiki/Causality) that forms a circuit or loop |