

Design FLC for Washing Machine

Consider about a washing machine equipped with fuzzy logic controller. There are two inputs applied in the machine. The first input is amount_of_clothes. And the second input is type_of_dirt. The rules applied in the system is shown below.

- 1. IF amount_of_clothes is LARGE and type_of_dirt is GREASY THEN wash_time is LONG;
- 2. IF amount_of_clothes is MEDIUM and type_of_dirt is MEDIUM THEN wash_time is MEDIUM;
- 3. IF amount_of_clothes SMALL THEN wash_time is SHORT.
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The membership of each input is as shown in Figure 1. The output of the system is as shown in Figure 2.

If you have a 4.5 kg of cloths to be washed, and your clothes are in level 3 of greasiness, then calculate the washing time needed using Mamdani style inference.

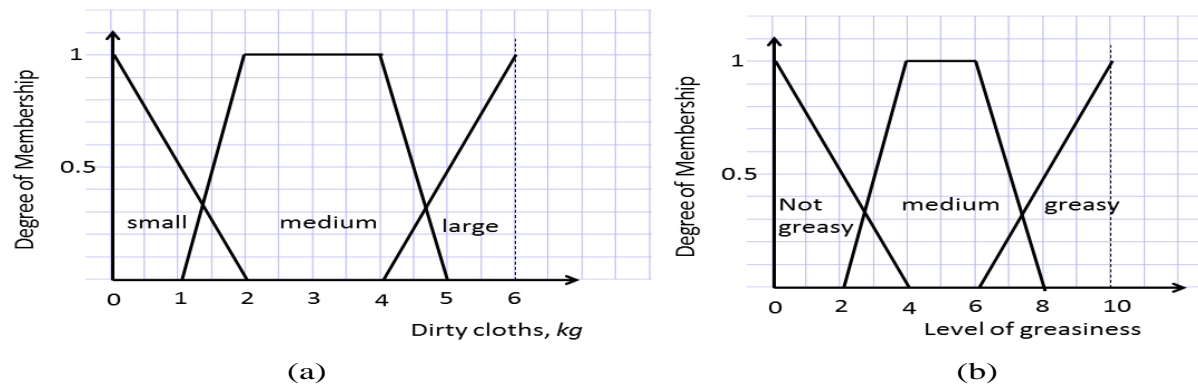


Figure 1 : Input of the system (a) dirty clothes (b) level of greasiness

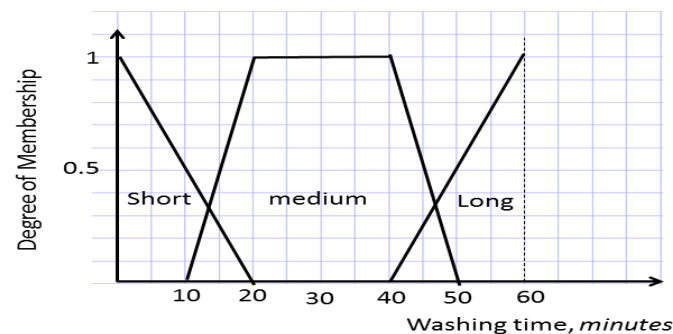


Figure 2 : Output, washing time

