

## Trabalho Prático 2 – C210

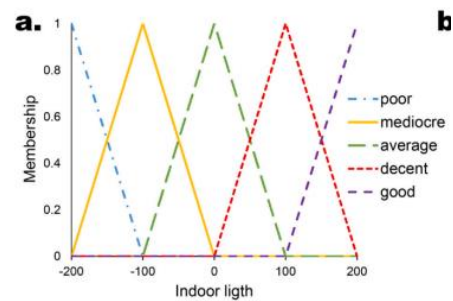
Um engenheiro que utilizar de lógica fuzzy para configurar o sistema de iluminação do prédio que está construindo. Para isso, ele leva em consideração tanto a iluminação interna quanto a iluminação externa do prédio para configurar a angulação das persianas e o nível de intensidade das lâmpadas de LED.

Tabelas de pertencimento dos Precedentes:

Iluminação interior:

**Table 1**  
Indoor light membership functions.

Categories	
Poor	- 200:- 200:- 100 [lux]
Mediocre	- 200:- 100:0 [lux]
Average	- 100:0:100 [lux]
Decent	0:100:200 [lux]
Good	100:200:200 [lux]



Iluminação exterior:

**Table 2**  
Outdoor light membership functions.

Categories	
Poor	0:0:550 [lux]
Average	0:550:1100 [lux]
Good	550:550:1100 [lux]

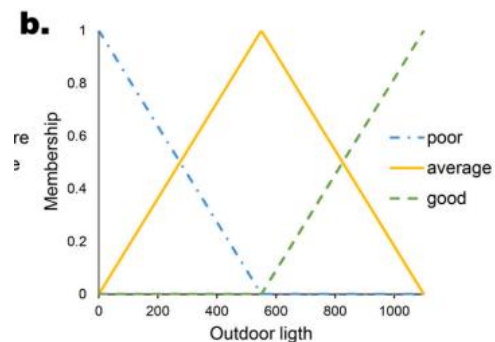
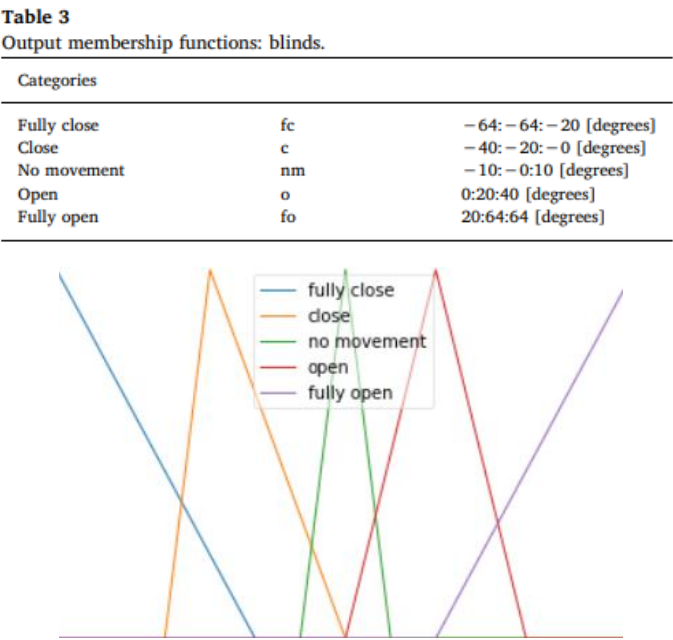
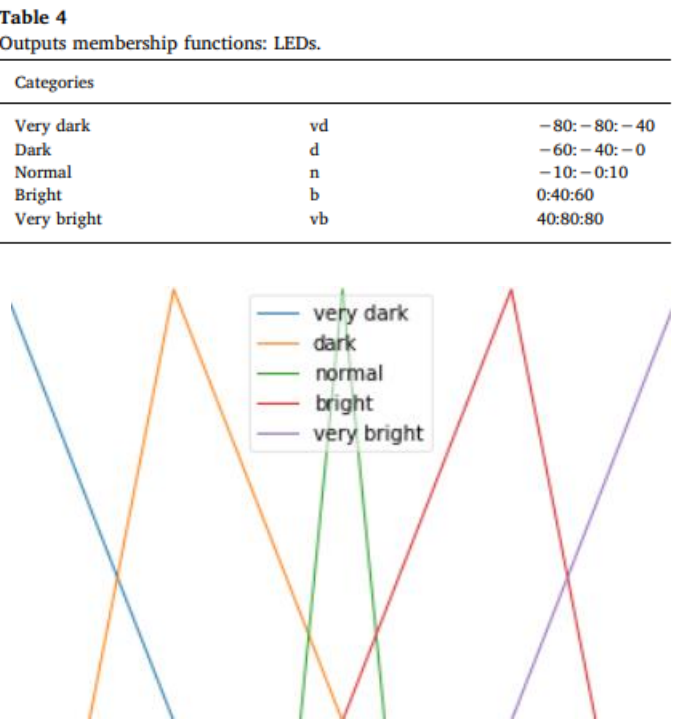


Tabela de pertencimento dos consequentes:

Persianas:



Lâmpadas:



Tabelas de regras:

Persianas:

**Table 5**

Set of rules: blinds.

	Indoor light	Outdoor light	Output
Rule 1	IF poor	AND poor	THEN fo
Rule 2	IF poor	AND average	THEN fo
Rule 3	IF poor	AND good	THEN o
Rule 4	IF mediocre	AND poor	THEN fo
Rule 5	IF mediocre	AND average	THEN o
Rule 6	IF mediocre	AND good	THEN o
Rule 7	IF average		THEN nm
Rule 8	IF decent	AND poor	THEN nm
Rule 9	IF decent	AND average	THEN c
Rule 10	IF decent	AND good	THEN fc
Rule 11	IF good	AND poor	THEN c
Rule 12	IF good	AND average	THEN fc
Rule 13	IF good	AND good	THEN fc

Lâmpadas:

**Table 6**

Set of rules: LEDs.

	Indoor light	Outdoor light	Output
Rule 1	IF poor	AND poor	THEN vb
Rule 2	IF poor	AND average	THEN vb
Rule 3	IF poor	AND good	THEN b
Rule 4	IF mediocre	AND poor	THEN vb
Rule 5	IF mediocre	AND average	THEN b
Rule 6	IF mediocre	AND good	THEN b
Rule 7	IF average		THEN n
Rule 8	IF decent	AND poor	THEN n
Rule 9	IF decent	AND average	THEN d
Rule 10	IF decent	AND good	THEN vd
Rule 11	IF good	AND poor	THEN d
Rule 12	IF good	AND average	THEN vd
Rule 13	IF good	AND good	THEN vd

Vocês devem criar todo o sistema fuzzy, com todas as funções de pertencimento mostradas acima (lembrando que todas são triangulares), criar ao menos uma (ou as duas) das tabelas de regras mostradas acima e testar o sistema com pelo menos dois casos diferentes de iluminação interna e externa.