

# AI LAB 13

Q2:

**Fuzzy Logic Designer: WashingMachine**

File Edit View

FIS Name: WashingMachine      FIS Type: mamdani

And method	min
Or method	max
Implication	min
Aggregation	max
Defuzzification	centroid

Saved FIS "WashingMachine" to file

**Membership Function Editor: Untitled**

File Edit View

**Membership function plots** plot points: 181

**FIS Variables**

- Type (highlighted)
- Status
- Cycle

Power

Current Variable

Name:      Type

Type: input

Range: [0 30]

Display Range: [0 30]

Selected variable "Type"

Current Membership Function (click on MF to select)

Name: Soft

Type: trapmf

Params: [0 4 6 10]

Help Close

**Membership Function Editor: Untitled**

File Edit View

**Membership function plots** plot points: 181

**FIS Variables**

- Type
- Status (highlighted)
- Cycle

Power

Current Variable

Name: Status

Type: input

Range: [0 10]

Display Range: [0 10]

Selected variable "Status"

Current Membership Function (click on MF to select)

Name: Dirty

Type: trapmf

Params: [0 2 3 5]

Help Close

**Membership Function Editor: Untitled**

File Edit View

**Membership function plots** plot points: 181

**FIS Variables**

- Type
- Status
- Cycle

Power

Current Variable

Name: Power

Type: output

Range: [0 9]

Display Range: [0 9]

Selected variable "Power"

Current Membership Function (click on MF to select)

Name: Low

Type: trapmf

Params: [0 1 2 3]

Help Close

**Rule Editor: WashingMachine**

File Edit View Options

```

1. If (Type is Soft) and (Status is Clean) and (Cycle is Less) then (Power is Low) (1)
2. If (Type is Soft) and (Status is Dirty) and (Cycle is Long) then (Power is Low) (1)
3. If (Type is Medium) and (Status is Dirty) and (Cycle is Long) then (Power is Medium) (1)
4. If (Type is Hard) and (Status is Clean) and (Cycle is Long) then (Power is Medium) (1)
5. If (Type is Hard) and (Status is Dirty) and (Cycle is Long) then (Power is High) (1)

```

If      and      and      Then

Type is      Status is      Cycle is      Power is

Soft	Dirty	Less	Low
Medium	Clean	Long	Medium
Hard	none	none	High
none			none

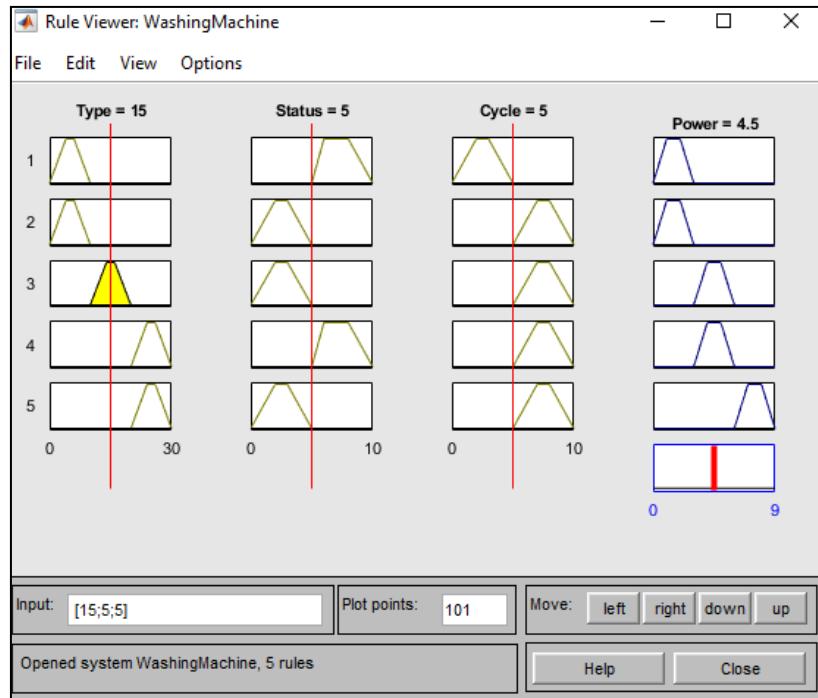
not      not      not

Connection: or and

Weight: 1

Delete rule Add rule Change rule <> >>

The rule is added



Q1:

