



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

# **ARTIFICIAL INTELLIGENCE SCSJ 3553**

## **PROGRESS 1**

### **KNOWLEDGE REPRESENTATION**

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# KNOWLEDGE REPRESENTATION

## I. IF load\_sensor= active AND food = present, THEN switch = ON

When the food is placed on the plate and the load sensor is activated it will cause the switch on.

$\text{active}(\text{load\_sensor}) \wedge \text{present}(\text{food}) \rightarrow \text{on}(\text{switch})$

Load_sensor	food	switch	load_sensor^food	load_sensor^food→switch
T	T	T	T	T
T	T	F	T	F
T	F	T	T	T
T	F	F	F	T
F	T	T	F	T
F	T	F	F	T
F	F	T	F	T
F	F	F	F	T

## II. IF calories\_sensor = active, THEN calories = SET

When the calories sensor is activated, the user can set the amount of targeted calories.

$\text{active}(\text{calories\_sensor}) \rightarrow \text{set}(\text{calories})$

calories_sensor	calories	calories_sensor→calories
T	F	F
F	T	T
T	T	T
F	F	T

III. **IF food = present, THEN calculate\_calories = START**

When the food is added the calories sensor will start calculate the calories.

present(food) → start(calculate\_calories)

food	calculate_calories	food→calculate_calories
T	F	F
F	T	T
T	T	T
F	F	T

IV. **IF set\_calories = TRUE, THEN indicator = GREEN**

When the amount of calories in the food matched with the set calories, the indicator will turn green.

true(set\_calories) → green(indicator)

set_calories	indicator	set_calories→indicator
T	F	F
F	T	T
T	T	T
F	F	T

V. **IF set\_calories = FALSE, THEN indicator = RED**

When the amount of calories in the food does not matched with the set calories, the indicator will turn red.

$\text{false}(\text{set\_calories}) \rightarrow \text{red}(\text{indicator})$

set_calories	indicator	set_calories→indicator
T	F	F
F	T	T
T	T	T
F	F	T

## REFERENCES

1. Peters, A. (2015). This Smart Plate Tells You How Many Calories You're Eating And Whether You're Eating Too Fast