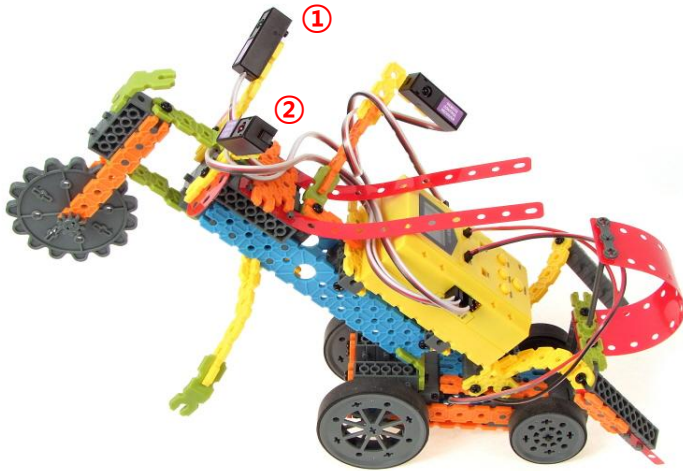
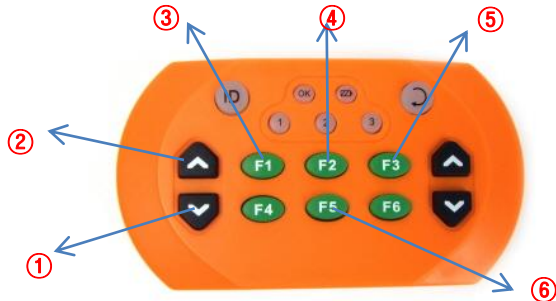


EQ-ROBO Programming : Tricking Car



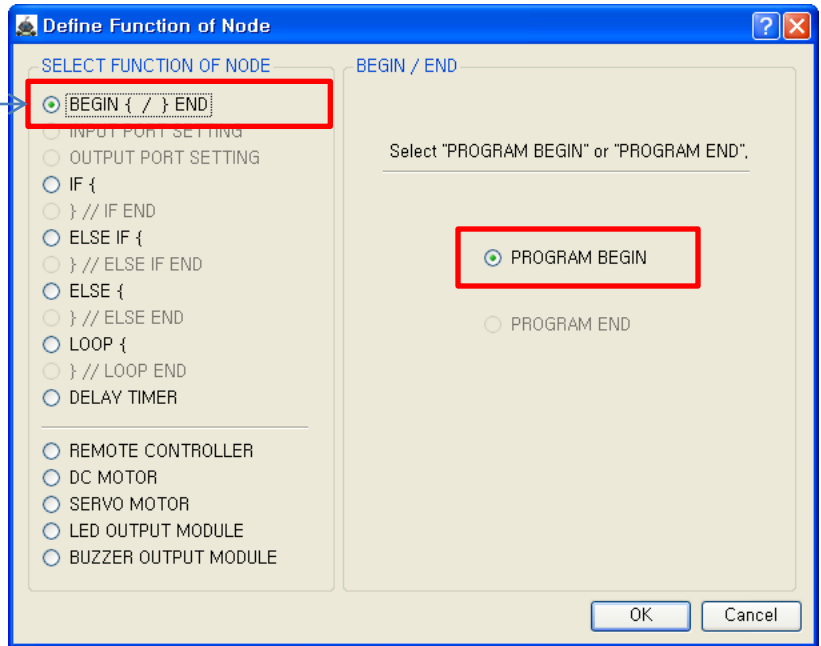
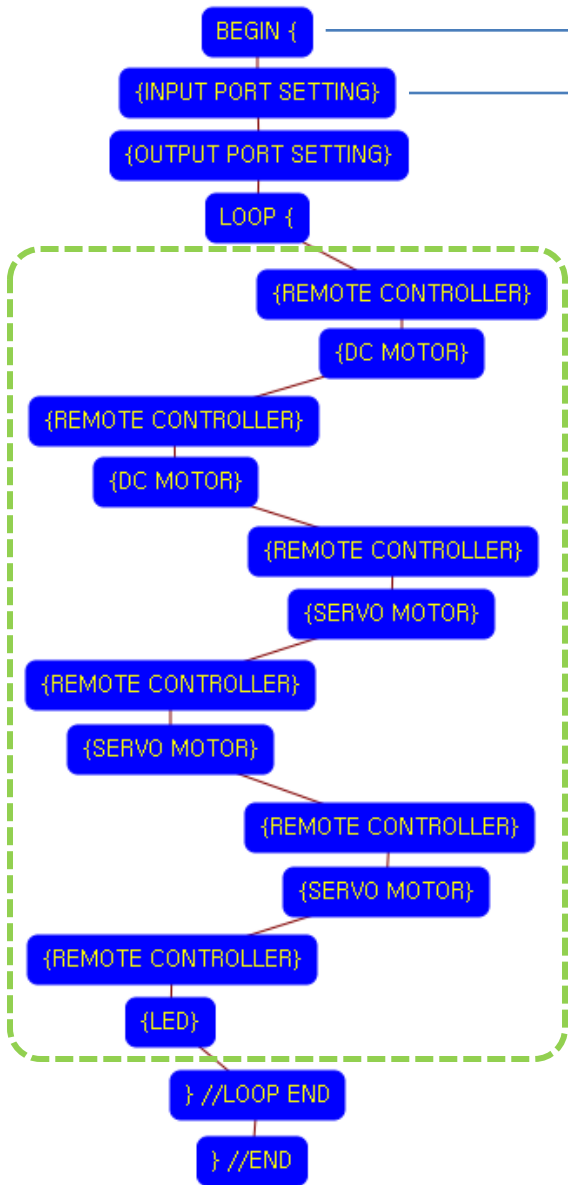
The car model is to study the remote controller programming.

Program name : eq2-2-p31_TrickingCar.ufc



- ① Go backward
- ② Go forward
- ③ Steering wheel turns left 20 degree
- ④ Steering wheel sets to the straight
- ⑤ Steering wheel turns right 20 degree
- ⑥ Turn on the left / right LEDs

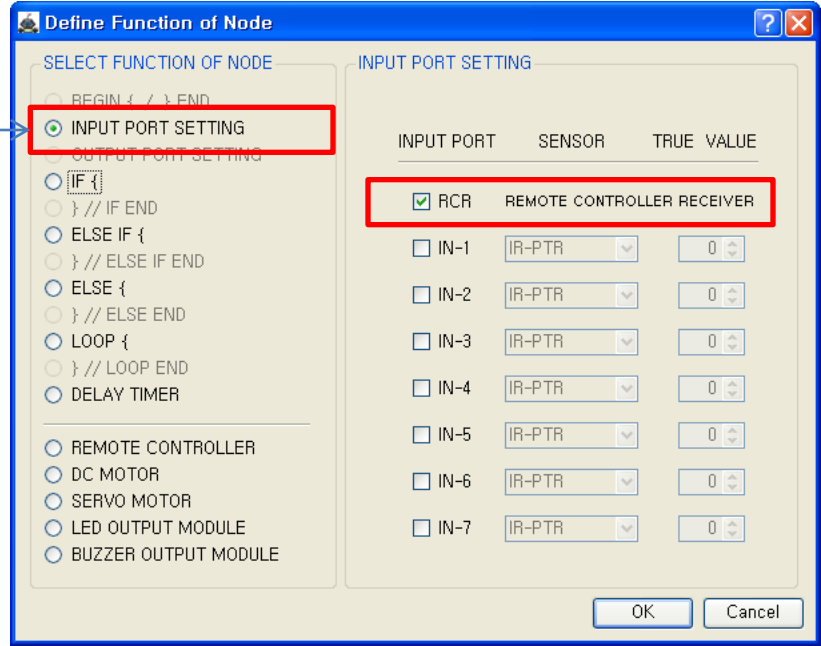




This means that program begins from here.

You have to place this node at the first of program.

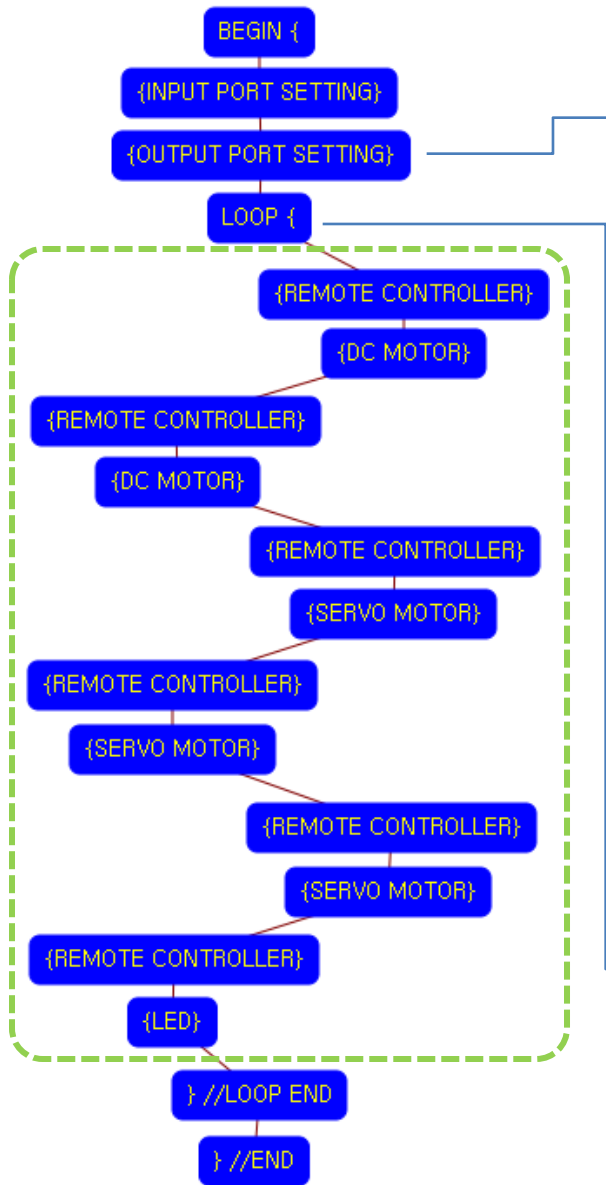
“PROGRAM END” is not active because you did not define “PROGRAM BEGIN” yet.



This model use 1 remote control receiver module as input device.

You have to connect the remote control receiver to the RCR input port of main board. And check the RCR in software to use.

If the real connection of sensors are different to the setting on software, it will make robot to wrong operation.



| OUTPUT PORT | MODULE | INITIAL VALUE |
|---|-------------|---------------|
| <input checked="" type="checkbox"/> OUT-1 | GREEN LED | 0 |
| <input checked="" type="checkbox"/> OUT-2 | RED LED | 0 |
| <input type="checkbox"/> OUT-3 | RED LED | 0 |
| <input checked="" type="checkbox"/> OUT-4 | SERVO MOTOR | 90 |
| <input type="checkbox"/> OUT-5 | RED LED | 0 |
| <input type="checkbox"/> OUT-6 | RED LED | 0 |
| <input type="checkbox"/> OUT-7 | RED LED | 0 |

This model use 2 LED modules and 1 Servo Motor as output device.

You have to connect the right ① LED module to the OUT-1 output port and left ② LED module to the OUT-2 output port and Servo motor to the OUT-4 output port of main board. The initial value of Servo motor is to be 90.

If the real connection of output modules are different to the setting on software, it will make robot to wrong operation.

LOOP BEGIN ~

LOOP BEGIN COMMAND

[ID] : Sequence Number (Automatically assigned),
 [REPEAT TIME] : Select "REPEAT TIME".

[ID]

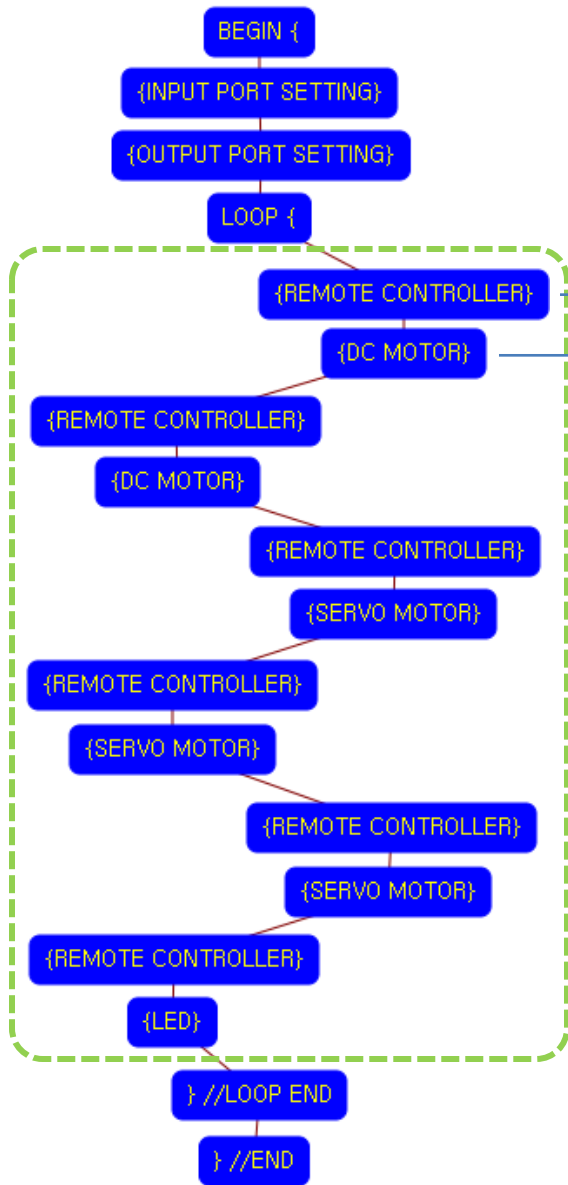
[REPEAT TIME]

LOOP command is used to repeat the commands.

"REPEAT TIME" is the repeat number you want. If you want permanent repetition, you have to set "0".

ID is automatically assigned. You have to set the same ID at "LOOP END".

Automatically assigned ID is different according to the sequence of making nodes.



Define Function of Node

SELECT FUNCTION OF NODE

- BEGIN { / } END
- INPUT PORT SETTING
- OUTPUT PORT SETTING
- REMOTE CONTROLLER**
- IF {
- } // IF END
- ELSE IF {
- } // ELSE IF END
- ELSE {
- } // ELSE END
- LOOP {
- } // LOOP END
- DELAY TIMER

REMOTE CONTROLLER

[DIRECTION KEY]

LEFT UP RIGHT UP

LEFT DOWN RIGHT DOWN

[DIRECTION MIXED KEY]

LEFT UP + RIGHT UP

LEFT UP + RIGHT DOWN LEFT DOWN + RIGHT UP

LEFT DOWN + RIGHT DOWN

[FUNCTION KEY]

F1 F2 F3

F4 F5 F6

OK Cancel

Set the "LEFT UP" key of remote controller.



Define Function of Node

SELECT FUNCTION OF NODE

- BEGIN { / } END
- INPUT PORT SETTING
- OUTPUT PORT SETTING
- DC MOTOR**
- IF {
- } // IF END
- ELSE IF {
- } // ELSE IF END
- ELSE {
- } // ELSE END
- LOOP {
- } // LOOP END
- DELAY TIMER

DC MOTOR

DC MOTOR CONTROL COMMAND

[DIRECTION] : Select "FORWARD" or "BACKWARD".

[SPEED] : Select Rotational Speed (0 ~ 100).

[RUNNING TIME] : Select Time (0.1 ~ 8.0 sec.)

[LEFT DC MOTOR] [RIGHT DC MOTOR]

[DIRECTION] [DIRECTION]

FORWARD FORWARD

[SPEED] [SPEED]

100 100

[RUNNING TIME]

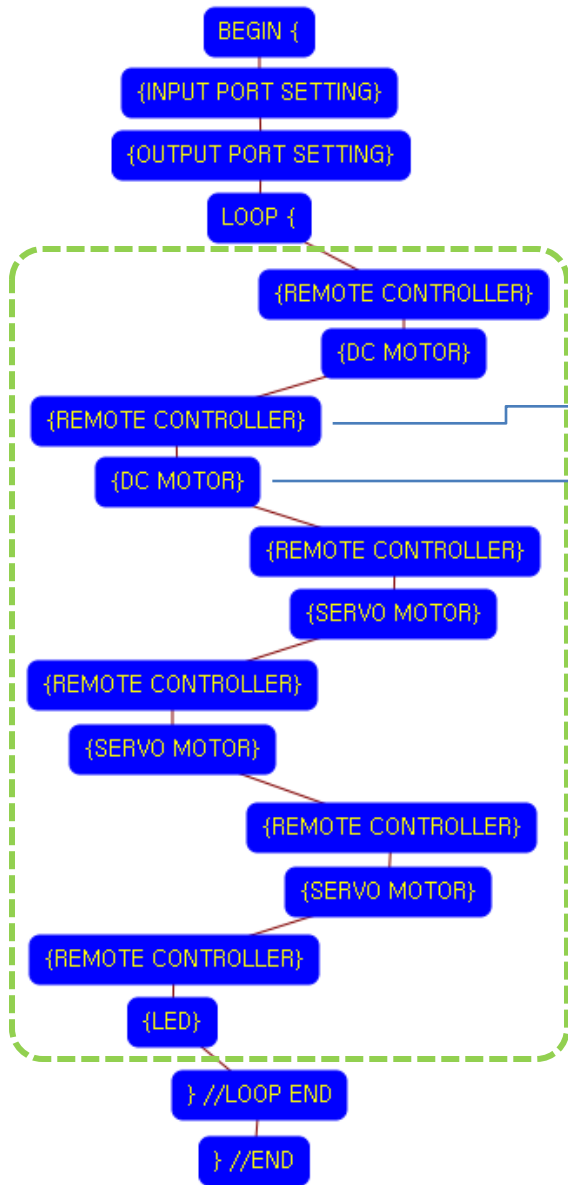
3

OK Cancel

If the "LEFT UP" key is pressed, both of DC motor run like as followings.

- Both DC Motor
- Direction : Forward
 - Speed : 100
 - Running Time : 3
- ➔ Robot goes forward during 0.3 second

If the "LEFT UP" key is pressed continuously, car go forwards continuously.



Define Function of Node

SELECT FUNCTION OF NODE

- BEGIN { / } END
- INPUT PORT SETTING
- OUTPUT PORT SETTING
- IF {
- } // IF END
- ELSE IF {
- } // ELSE IF END
- ELSE {
- } // ELSE END
- LOOP {
- } // LOOP END
- DELAY TIMER

REMOTE CONTROLLER

[DIRECTION KEY]

LEFT UP RIGHT UP

LEFT DOWN RIGHT DOWN

[DIRECTION MIXED KEY]

LEFT UP + RIGHT UP

LEFT UP + RIGHT DOWN LEFT DOWN + RIGHT UP

LEFT DOWN + RIGHT DOWN

[FUNCTION KEY]

F1 F2 F3

F4 F5 F6

OK Cancel

Set the "LEFT DOWN" key of remote controller.



Define Function of Node

SELECT FUNCTION OF NODE

- BEGIN { / } END
- INPUT PORT SETTING
- OUTPUT PORT SETTING
- IF {
- } // IF END
- ELSE IF {
- } // ELSE IF END
- ELSE {
- } // ELSE END
- LOOP {
- } // LOOP END
- DELAY TIMER

DC MOTOR

DC MOTOR CONTROL COMMAND

[DIRECTION] : Select "FORWARD" or "BACKWARD".

[SPEED] : Select Rotational Speed (0 ~ 100).

[RUNNING TIME] : Select Time (0.1 ~ 8.0 sec.)

[LEFT DC MOTOR] [RIGHT DC MOTOR]

[DIRECTION] [DIRECTION]

BACKWARD BACKWARD

[SPEED] [SPEED]

100 100

[RUNNING TIME]

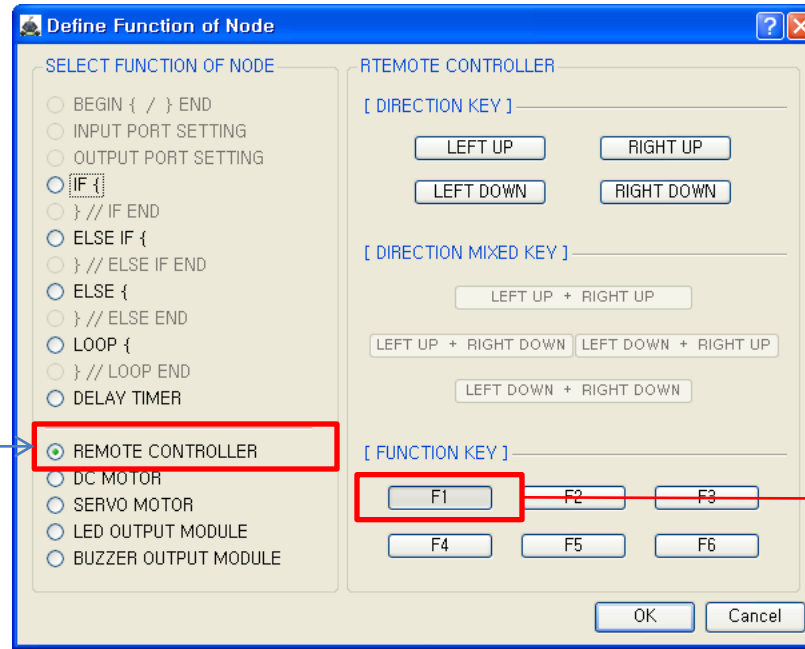
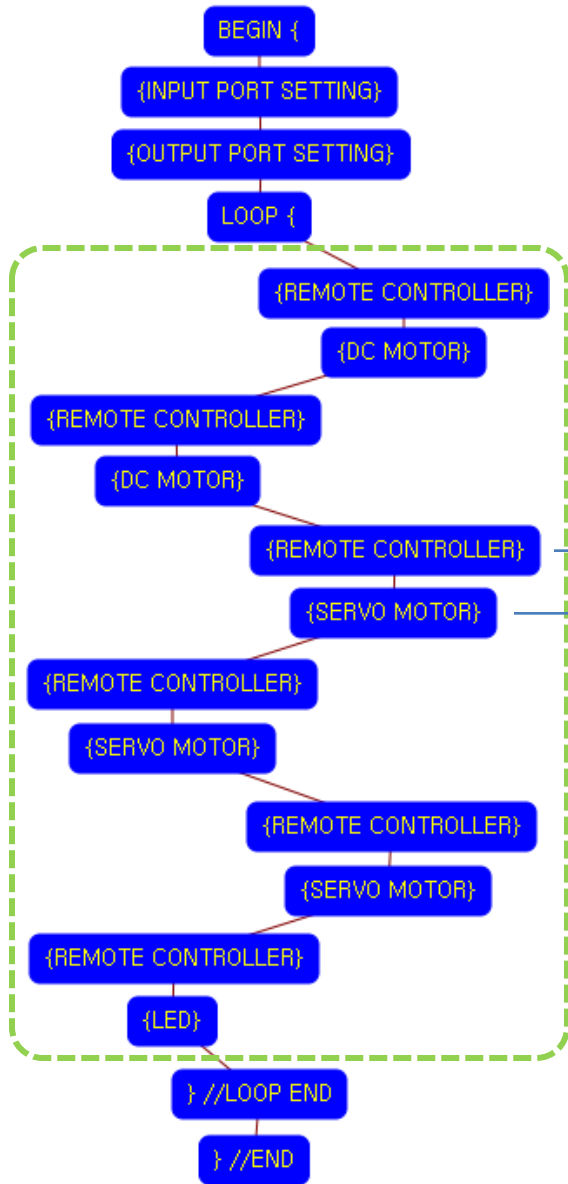
3

OK Cancel

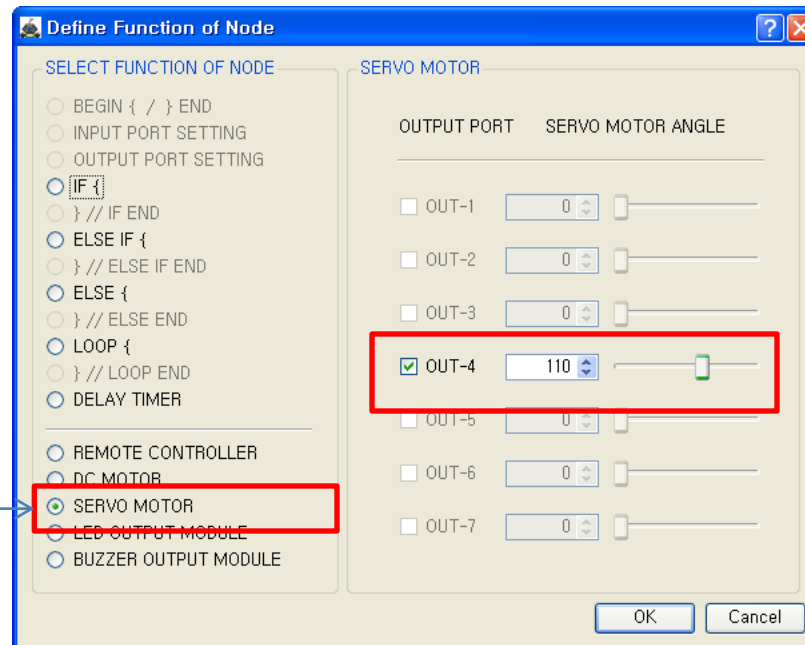
If the "LEFT DOWN" key is pressed, both of DC motor run like as followings.

- Both DC Motor
- Direction : Backward
 - Speed : 100
 - Running Time : 3
- ➔ Robot goes backward during 0.3 second

If the "LEFT DOWN" key is pressed continuously, car go backwards continuously.

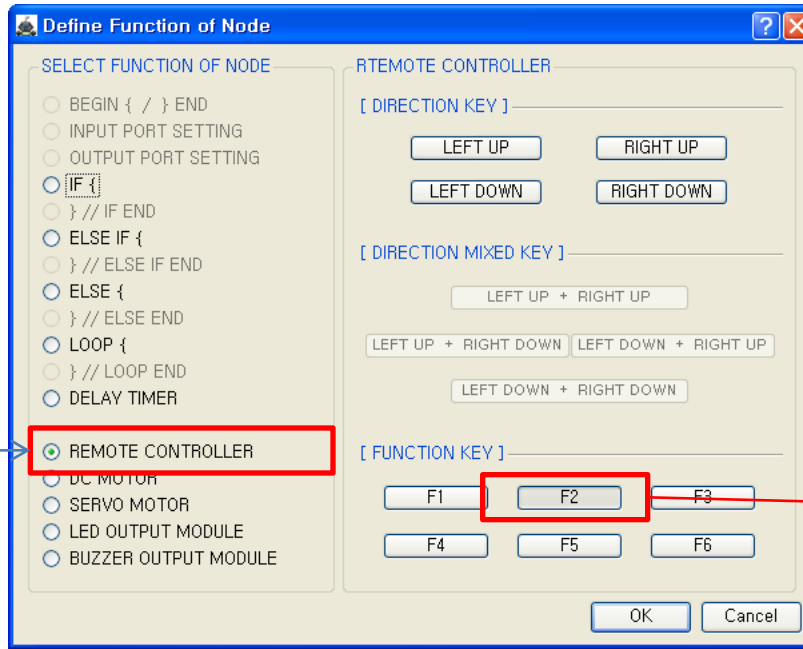
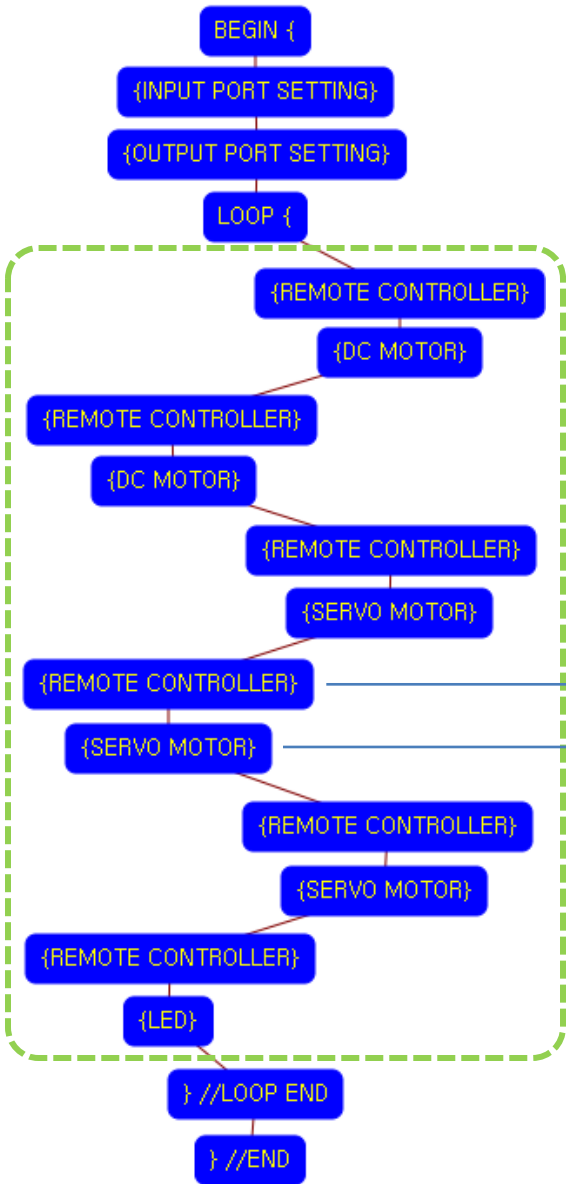


Set the "F1" key of remote controller.

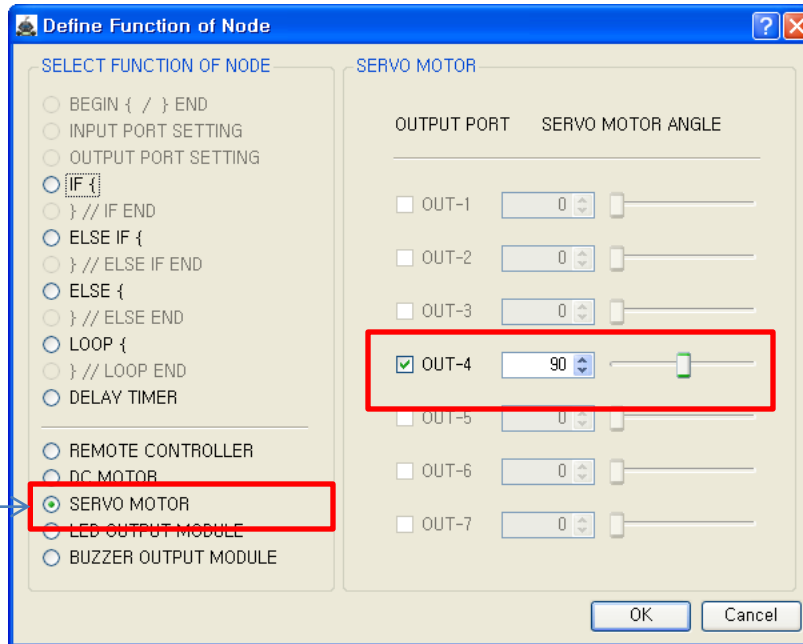


If the "F1" key is pressed, the servo motor sets to the 110 degree.

Viewing from the rear side, the steering wheel turns left 20 degree.
(If the servo motor assembly is different with the assembly manual, the servo motor operation is different also)

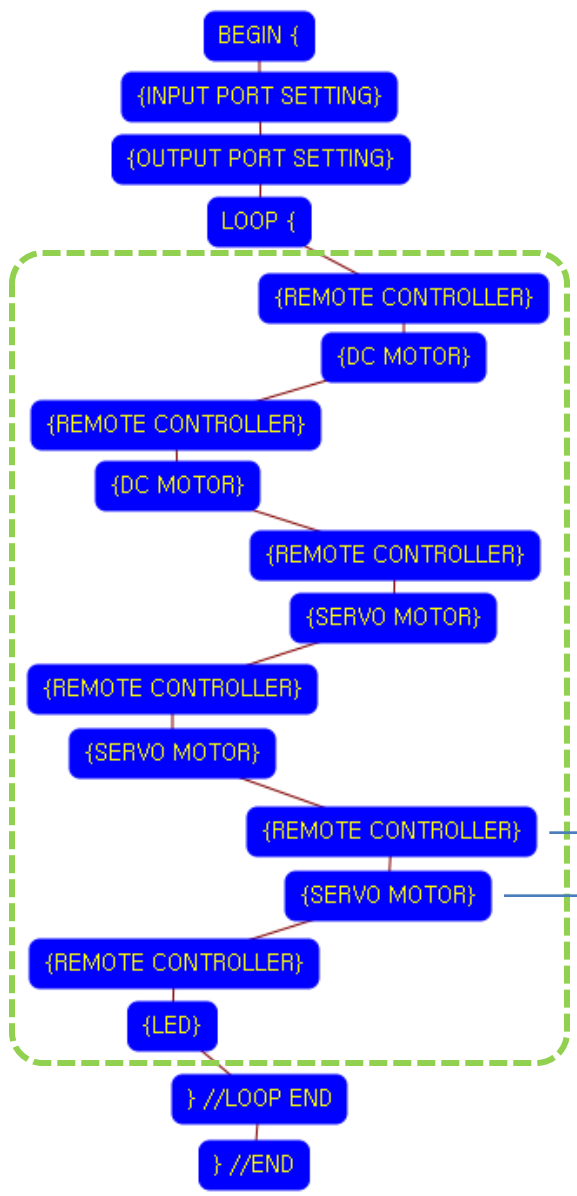


Set the "F2" key of remote controller.



If the "F2" key is pressed, the servo motor sets to the 90 degree.

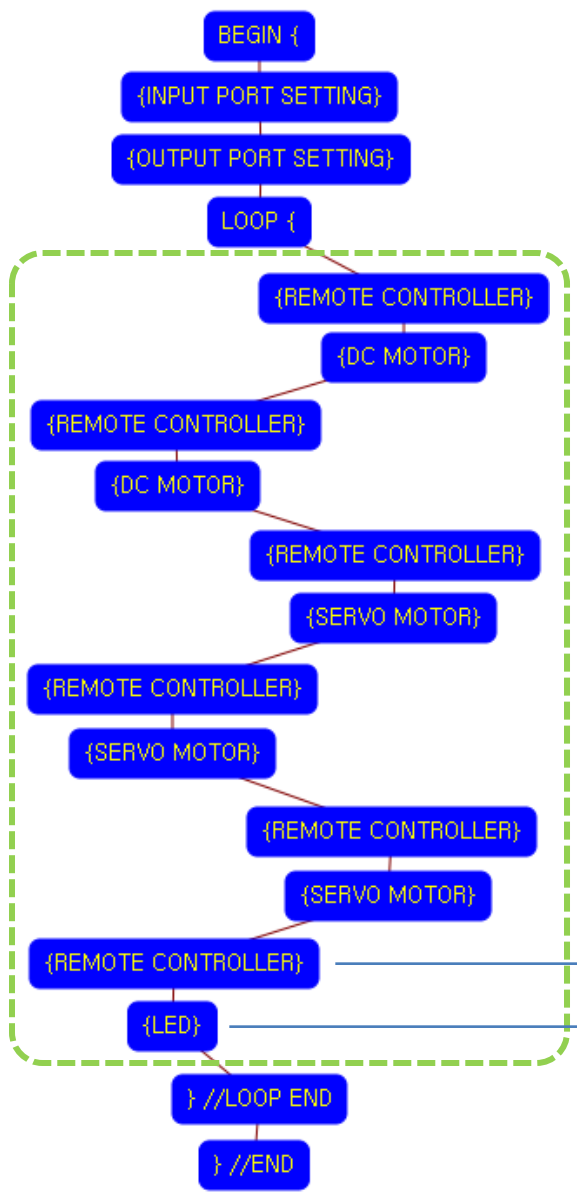
Viewing from the rear side, the steering wheel sets to the go straight.
(If the servo motor assembly is different with the assembly manual, the servo motor operation is different also)



Set the "F3" key of remote controller.

If the "F3" key is pressed, the servo motor sets to the 70 degree.

Viewing from the rear side, the steering wheel turns right 20 degree.
(If the servo motor assembly is different with the assembly manual, the servo motor operation is different also)



Define Function of Node

SELECT FUNCTION OF NODE

- BEGIN { / } END
- INPUT PORT SETTING
- OUTPUT PORT SETTING
- IF {
- } // IF END
- ELSE IF {
- } // ELSE IF END
- ELSE {
- } // ELSE END
- LOOP {
- } // LOOP END
- DELAY TIMER

REMOTE CONTROLLER

[DIRECTION KEY]

LEFT UP RIGHT UP

LEFT DOWN RIGHT DOWN

[DIRECTION MIXED KEY]

LEFT UP + RIGHT UP

LEFT UP + RIGHT DOWN LEFT DOWN + RIGHT UP

LEFT DOWN + RIGHT DOWN

[FUNCTION KEY]

F1 F2 F3

F4 F5 F6

OK Cancel

Set the "F5" key of remote controller.



Define Function of Node

SELECT FUNCTION OF NODE

- BEGIN { / } END
- INPUT PORT SETTING
- OUTPUT PORT SETTING
- IF {
- } // IF END
- ELSE IF {
- } // ELSE IF END
- ELSE {
- } // ELSE END
- LOOP {
- } // LOOP END
- DELAY TIMER

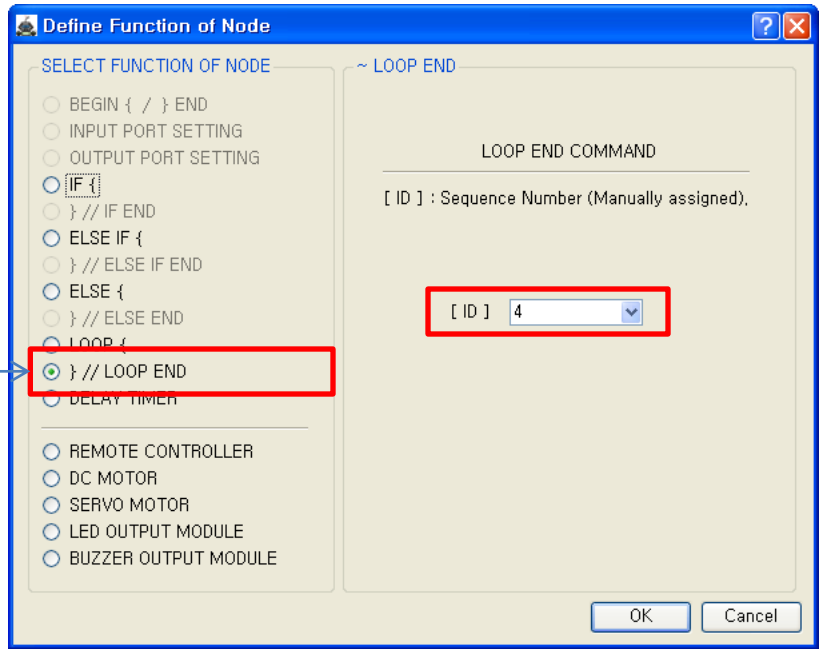
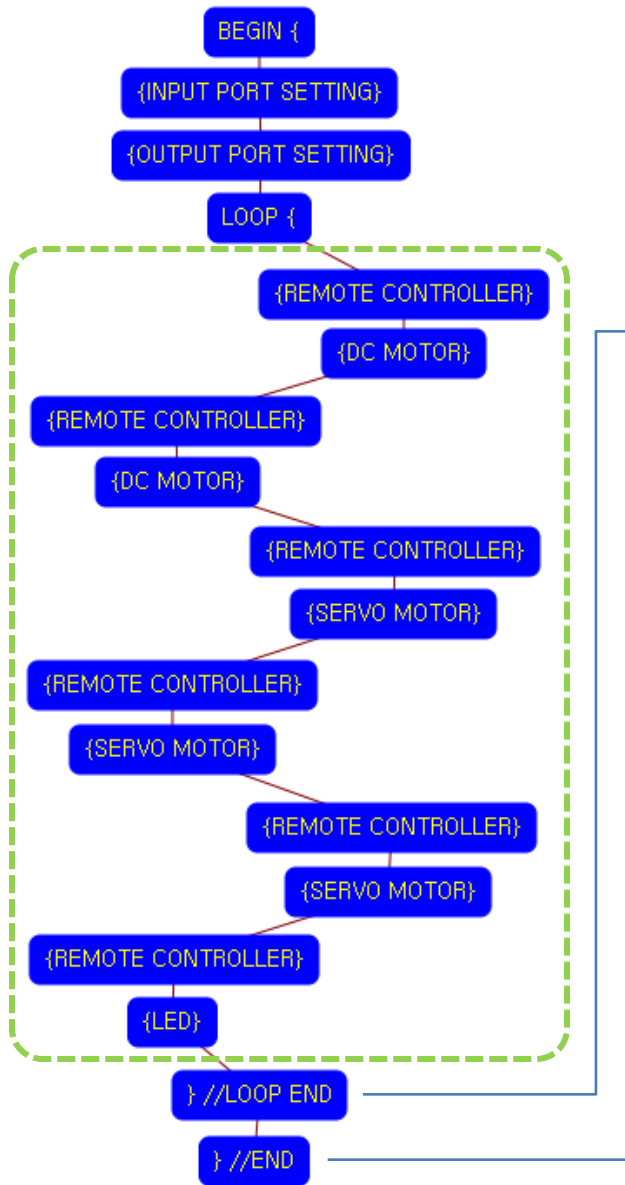
LED OUTPUT MODULE

| OUTPUT PORT | On TIME | Off TIME | REPEAT |
|---|---------|------------------|--------|
| <input checked="" type="checkbox"/> OUT-1 | 5 | 5 | 1 |
| <input type="checkbox"/> OUT-2 | | | |
| <input type="checkbox"/> OUT-3 | | 5 : 0.5 seconds | |
| <input type="checkbox"/> OUT-4 | | 10 : 1.0 seconds | |
| <input type="checkbox"/> OUT-5 | | 15 : 1.5 seconds | |
| <input type="checkbox"/> OUT-6 | | 20 : 2.0 seconds | |
| <input type="checkbox"/> OUT-7 | | | |

[REPEAT] : Select the REPEAT times (0 ~ 10)

OK Cancel

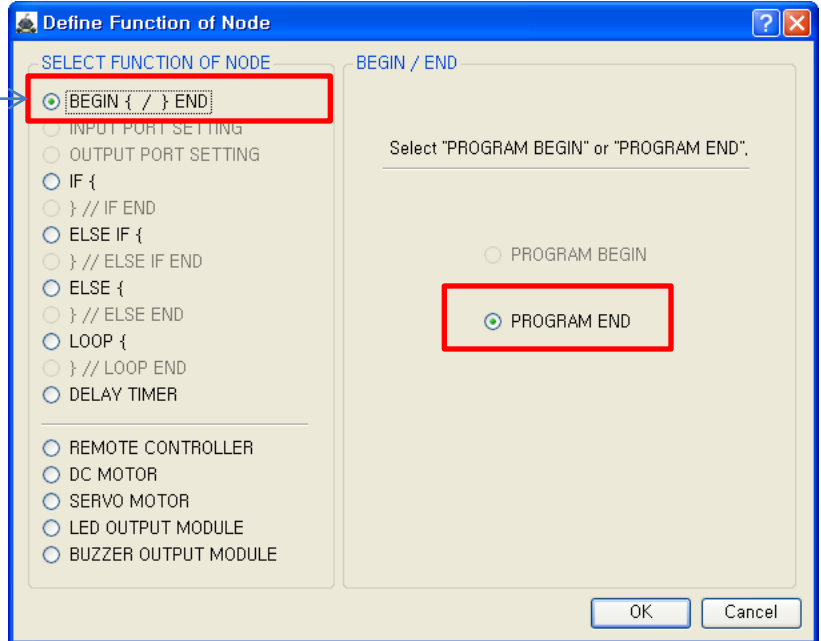
If the "F5" key is pressed, both of the LEDs turn on and off with interval 0.5 second.



The end point of “LOOP {” repetition command.

You have to assigned the ID of paired “LOOP {” repetition command.

(It is necessary to know that which “LOOP {” among the many “LOOP {” repetition commands in program.



This means that program ends hear.

You have to place this node at the end of program.

“PROGRAM BEGIN” is not active because you already define at the program.

To run the robot, it is necessary to download the program into the robot. (Refer to download manual)