

# *Занятие по робототехнике:*

## *Аппаратная и программная отладка модели робота «Движение по линии»*



```
totalhalt = first stop!  
stop 100!  
turn 90! look to one side  
servo_turn 4 wait for the servo to be finished turning  
5 10 10  
totalhalt
```

```
the other way:  
turn 90! look to another side  
servo_turn 4 wait for the servo to be finished turning  
5 10 10  
totalhalt
```

```
is which is the better way:  
50 1000  
back to 90  
servo_turn 4  
totalhalt
```

```
turn 90  
5 100 5 1 100 10 1 high 4  
turn 90 servo 4 totalhalt
```

```
turn 90  
5 100 5 1 100 10 1 high 7  
turn 90 servo 4 totalhalt
```

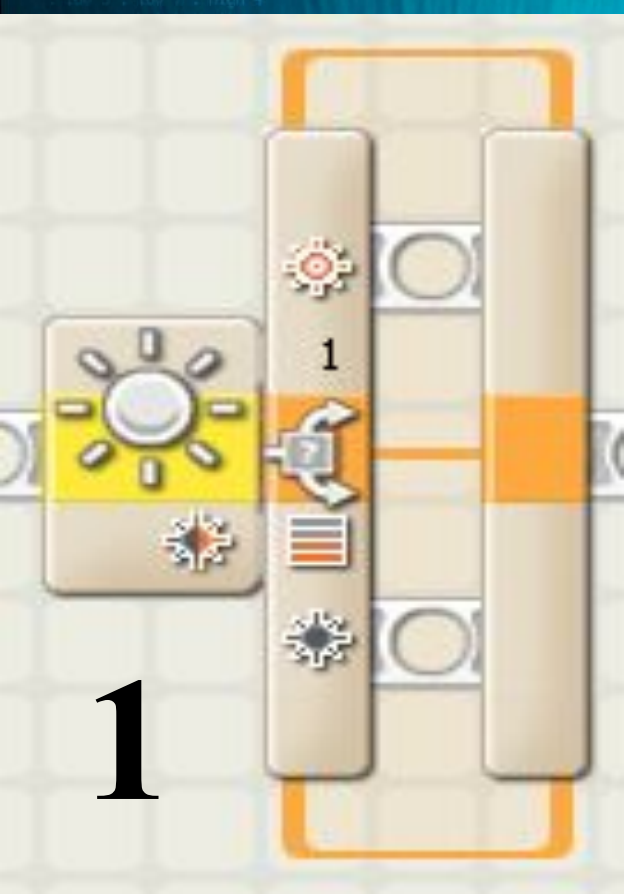
```
totalWait = firstStop;
while (true)
  turn = lookToOneSide;
  servoTurn = wait for the servo to be finished turning
  & 90;
  totalWait++;
```

```
the other way:
turn = lookToAnotherSide;
servoTurn = wait for the servo to be finished turning
  & 90;
  totalWait++;
// which is the better way?
// or then
// back to app
```

# Цикл

# Движение

# Переключатель



1

2

3

```
totalWait = firstStop;
```

```
void loop()
```

```
  {turn = lookToOneSide;  
  servoTurn = waitForTheServoToBeFinishedTurning  
  & n; // 0;  
  totalWait++;
```

```
  // the other way:
```

```
  {turn = lookToAnotherSide;  
  servoTurn = waitForTheServoToBeFinishedTurning  
  & n; // 0;  
  totalWait++;
```

```
  // which is the better way:
```

```
  // 0; // 0;  
  // 0; // 0;
```

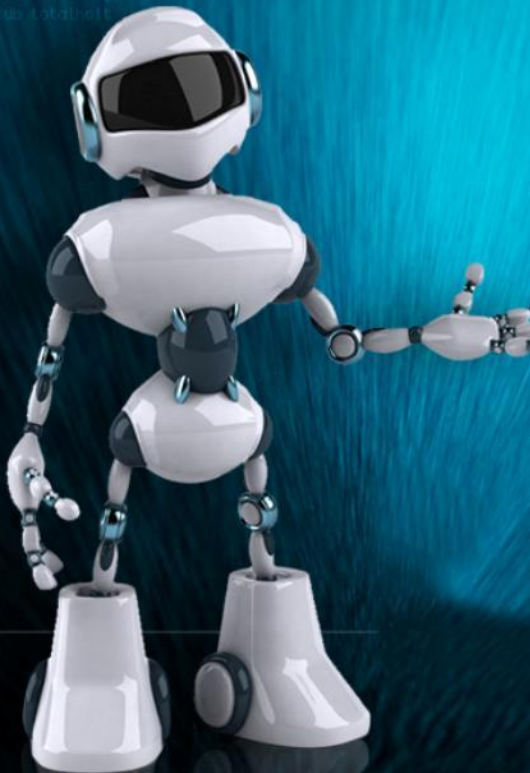
```
  // 0; // 0;
```

```
  // 0;
```

```
  // 0; // 0; // 0; // 0; // 0; // 0;  
  // 0; // 0; // 0; // 0; // 0; // 0;
```

```
  // 0;
```

```
  // 0; // 0; // 0; // 0; // 0; // 0;  
  // 0; // 0; // 0; // 0; // 0; // 0;
```



totalWait = firstStop;

void stop;

turn() look to one side  
servo\_turn() wait for the servo to be finished turning  
<math>90</math> deg  
totalWait;

the other way:

turn() look to another side  
servo\_turn() wait for the servo to be finished turning  
- <math>90</math> deg  
totalWait;

so which is the better way:

no idea  
back to arm

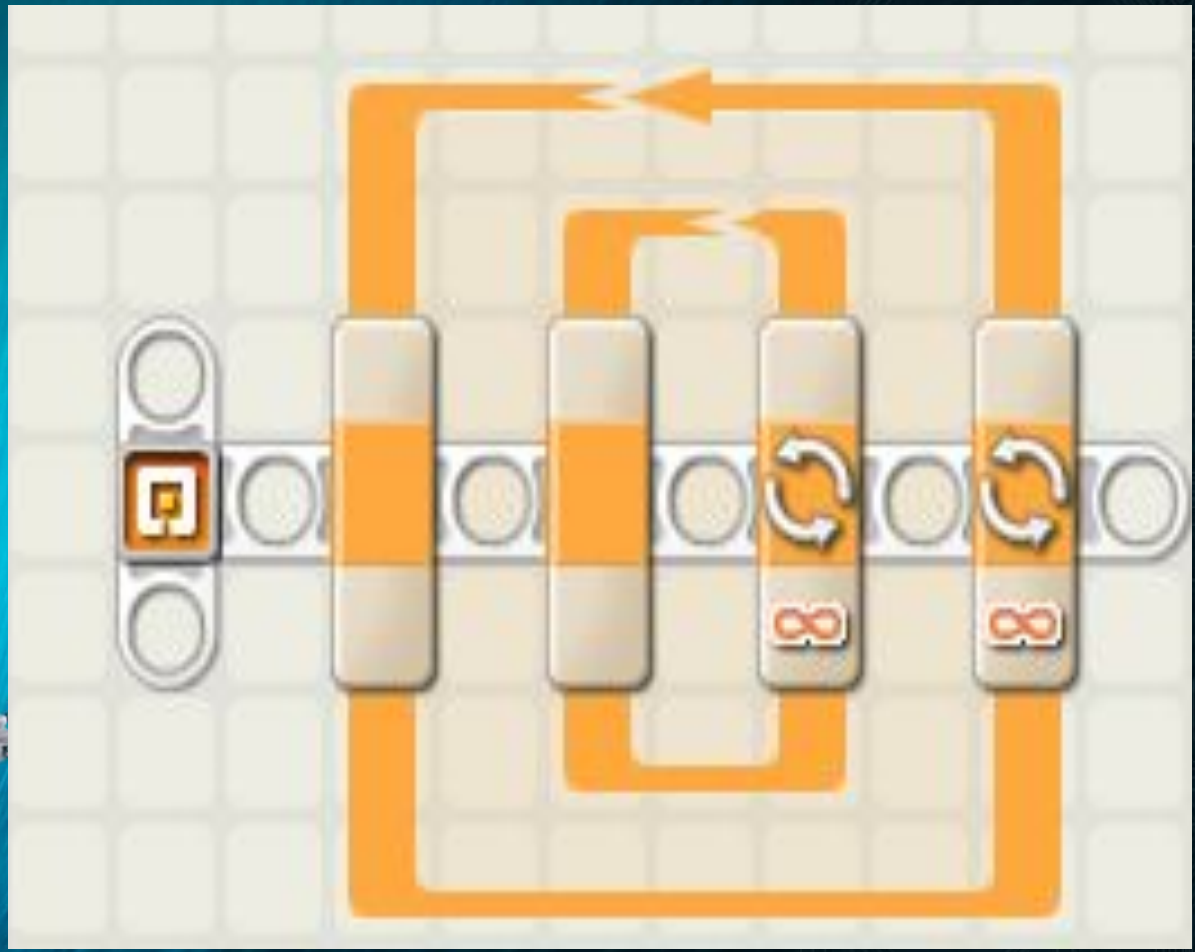
back to arm

turns

low 5 : low 7 : high 4  
turn() servo totalWait

turn

low 6 : low 8 : high 7  
turn() servo totalWait



totalWait = firstStop;

void loop()

{turn = lookToOneSide;  
servoTurn = wait for the servo to be finished turning  
& on; do;  
totalWait++;

the other way:

turn = lookToAnotherSide;  
servoTurn = wait for the servo to be finished turning  
& on; do;  
totalWait++;

so which is the better way:

do {turn  
servoTurn};

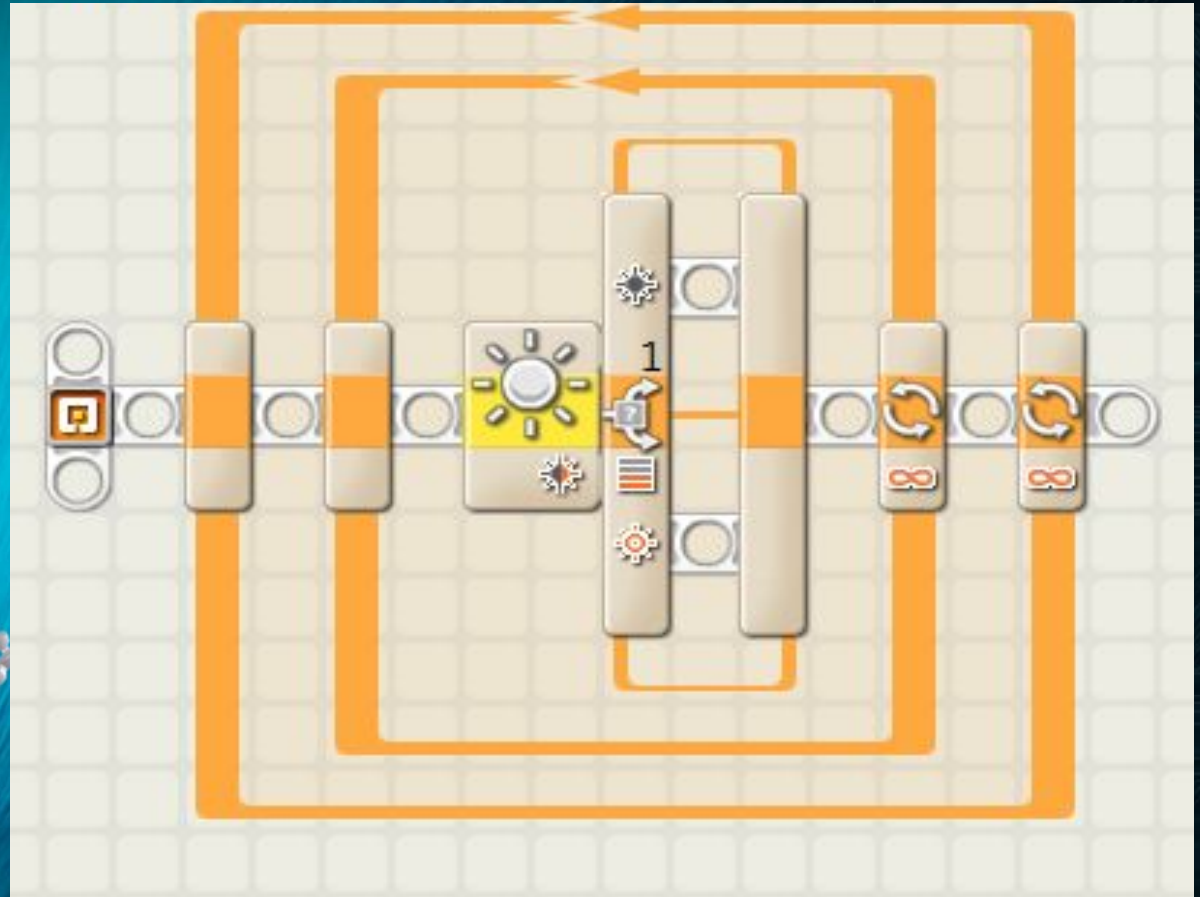
loop();

turn;

turn = low & 1; low ? 1 : high & 4  
turn = servo; totalWait++;

turn;

turn = low & 1; low ? 1 : high & 4  
turn = servo; totalWait++;



totalWait = firstStop;

void stop;

turn = lookToOneSide;  
servoTurn = wait for the servo to be finished turning  
to 90;  
totalWait;

the other way:

turn = lookToAnotherSide;  
servoTurn = wait for the servo to be finished turning  
to 90;  
totalWait;

is which is the better way:

no idea  
back to you

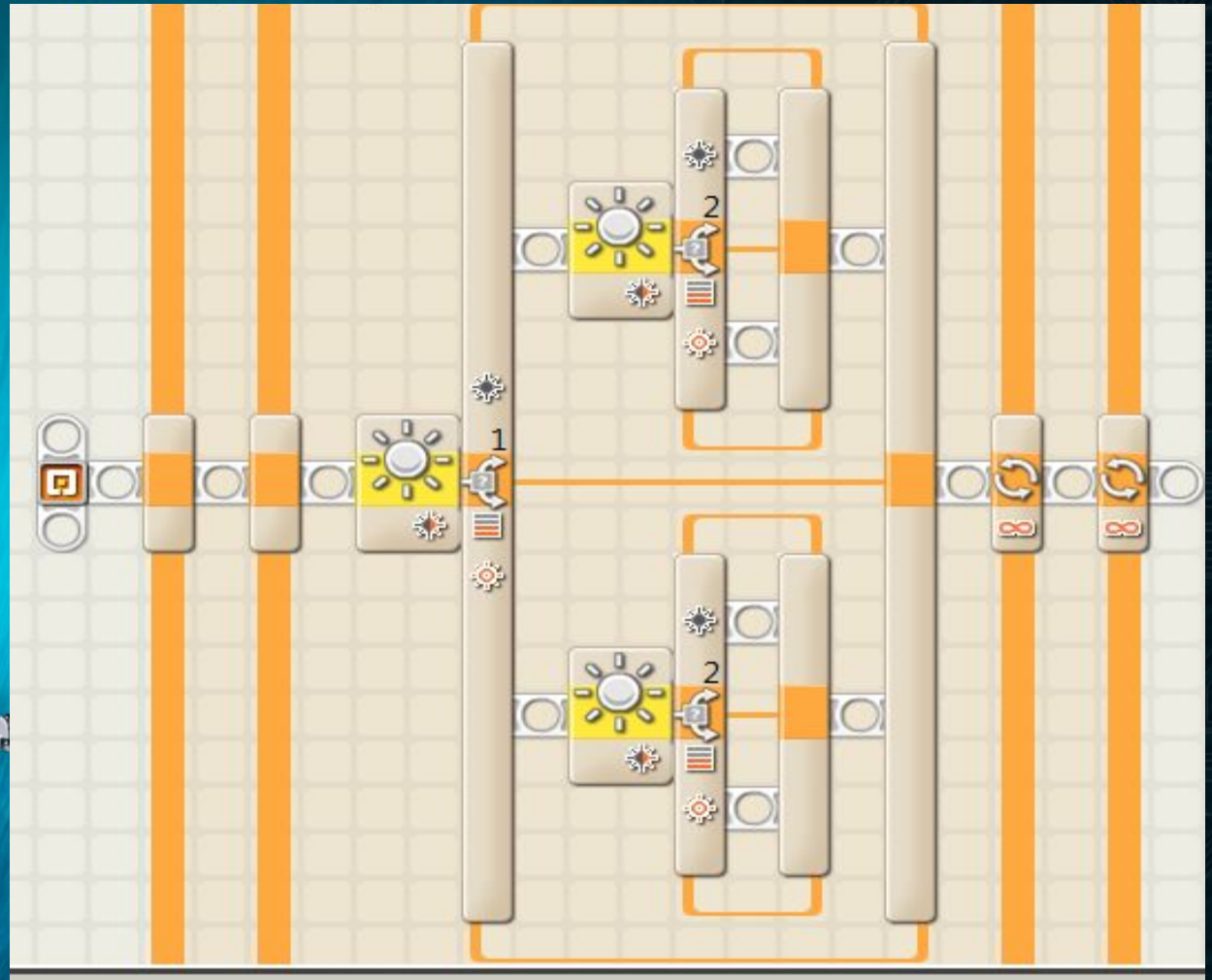
best answer

turn

1: low 2: low 3: high 4  
turn = servo totalWait

turn

1: low 2: low 3: high 4  
turn = servo totalWait



totalWait = firstStop;

void turn1

{turn = lookToOppositeSide;

servoTurn; // wait for the servo to be finished turning

if (turn == 0)

totalWait = 0;

the other way:

turn = lookToAnotherSide;

servoTurn; // wait for the servo to be finished turning

if (turn == 0)

totalWait = 0;

so which is the better way:

if (turn == 0)

totalWait = 0;

totalWait = 0;

turn1

{turn = lookToOppositeSide;

servoTurn; // wait for the servo to be finished turning

if (turn == 0)

totalWait = 0;

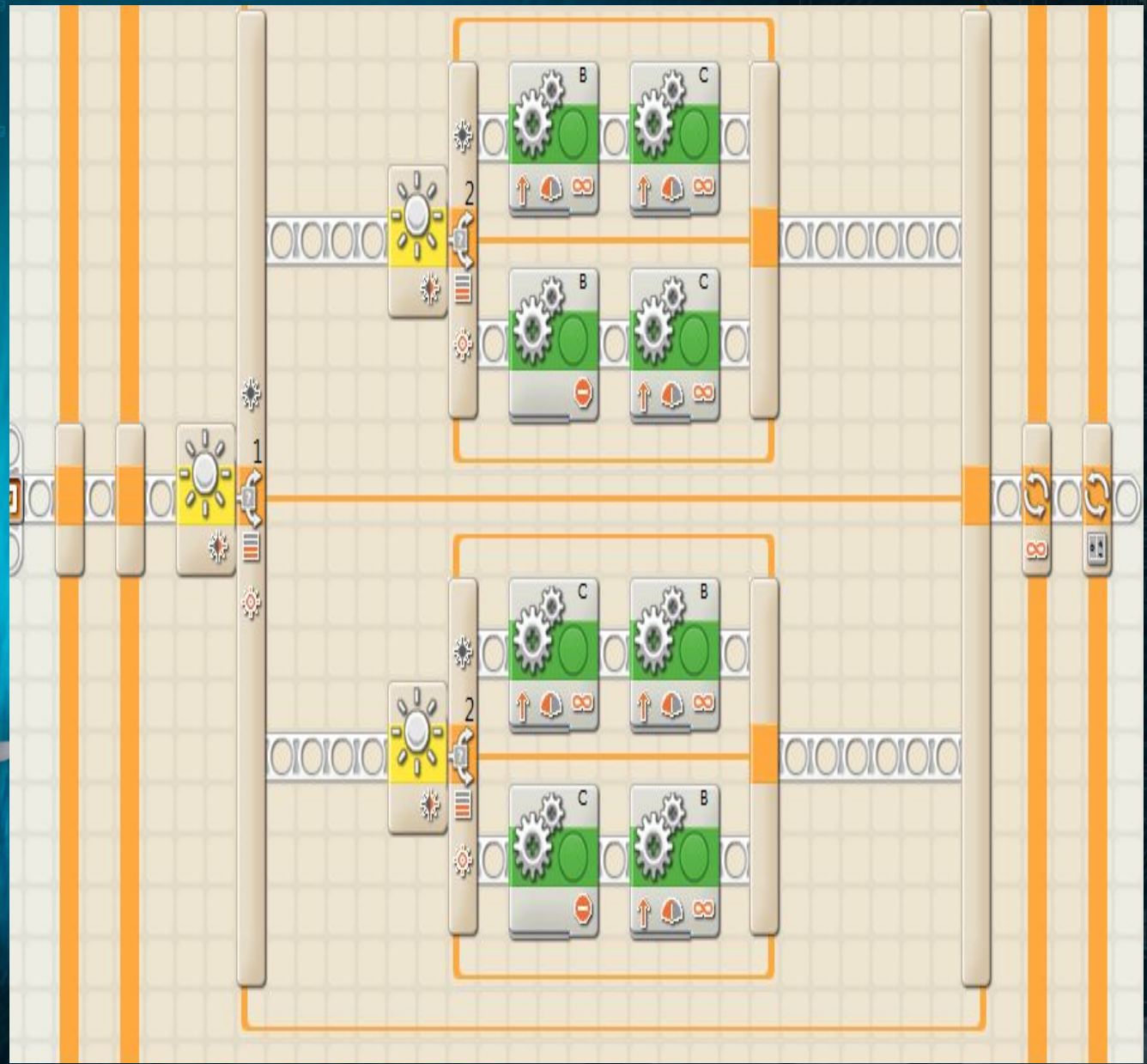
turn2

{turn = lookToAnotherSide;

servoTurn; // wait for the servo to be finished turning

if (turn == 0)

totalWait = 0;



# Загружаем программу





```
totalWait = firstStop;
```

```
void loop() {  
  turn = lookToOneSide;  
  servoTurn = wait for the servo to be finished turning  
  & n; // //  
  totalWait;  
}
```

```
the other way:  
turn = look to another side  
servoTurn = wait for the servo to be finished turning  
  & n; // //  
  totalWait;
```

```
is which is the better way:  
// //  
  back to arm
```

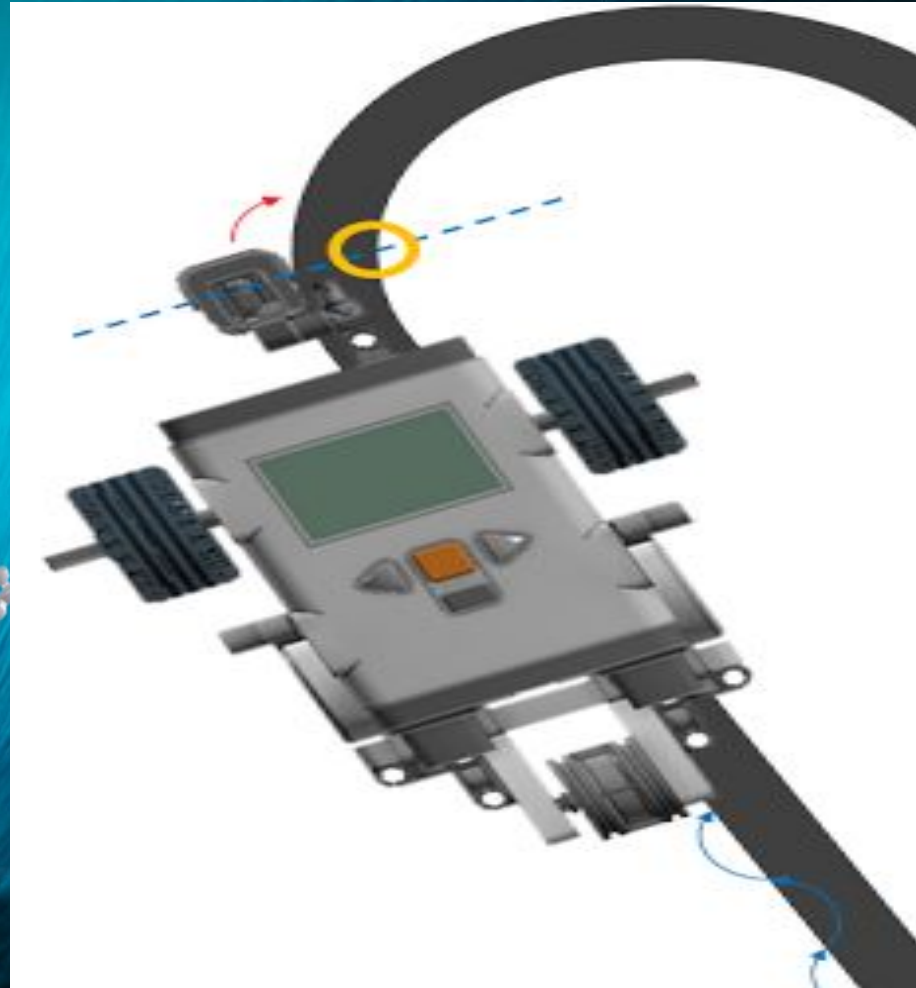
```
back to arm
```

```
turn  
  & n; low 5 : low 7 : high 4  
  turn = servo totalWait
```

```
turn  
  & n; low 6 : low 8 : high 7  
  turn = servo totalWait
```



# Тестирование



```
totalWait = first_stop  
  
while (0) {  
    turn = look_to_one_side  
    servo_turn = wait_for_the_servo_to_be_finished_turning  
    & 180;   
    totalWait++  
  
    the_other_way =  
    & 180; // look to another side  
    servo_turn = wait_for_the_servo_to_be_finished_turning  
    & 180;   
    totalWait++  
  
    // which is the better way?  
    do_something  
    back_to_0 = 0  
  
    // do another  
  
    turn = look_to_one_side  
    servo_turn = wait_for_the_servo_to_be_finished_turning  
    & 180;   
    totalWait++  
  
    turn = look_to_the_other_side  
    servo_turn = wait_for_the_servo_to_be_finished_turning  
    & 180;   
    totalWait++  
  
    turn = look_to_one_side  
    servo_turn = wait_for_the_servo_to_be_finished_turning  
    & 180;   
    totalWait++  
  
    turn = look_to_the_other_side  
    servo_turn = wait_for_the_servo_to_be_finished_turning  
    & 180;   
    totalWait++  
  
    // ...  
}
```

# Спасибо за продуктивную работу!!!

