

Занятие по робототехнике:

Аппаратная и программная отладка модели робота «Движение по линии»



```
totalhalt = first stop!  
  
the first way:  
look -> look to one side  
servo_turn -> wait for the servo to be finished turning  
-> go  
totalhalt!  
  
the other way:  
look -> look to another side  
servo_turn -> wait for the servo to be finished turning  
-> go  
totalhalt!  
  
we -> which is the better way?  
go there  
back to go  
  
servo_start  
  
turns  
-> low 2 -> low 7 -> high 4  
turn -> servo -> totalhalt!  
  
turns  
-> low 6 -> low 9 -> high 7  
turn -> servo -> totalhalt!
```

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

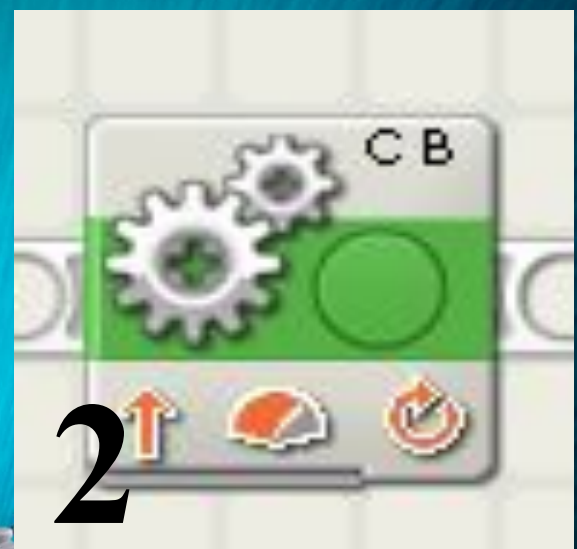
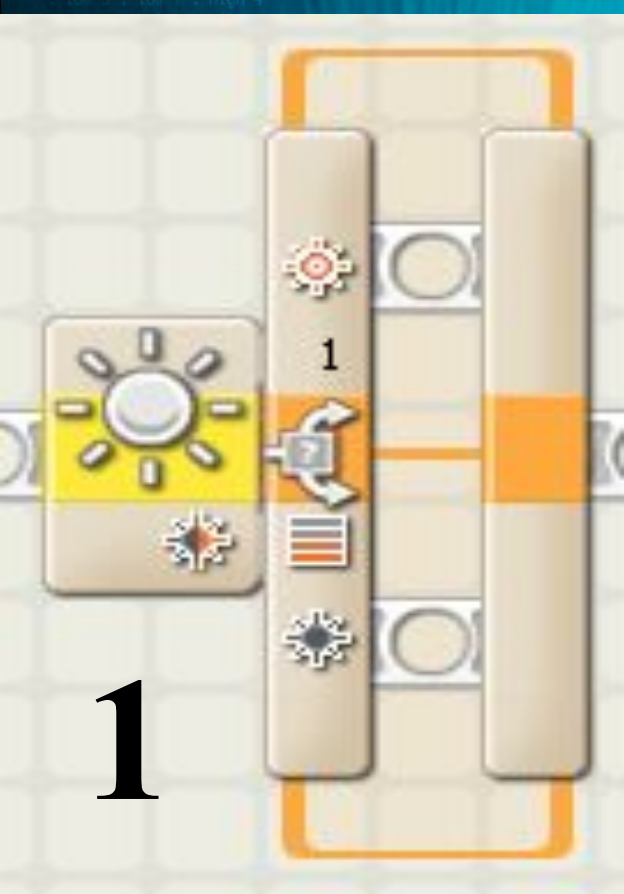
the other way:
turn = lookToAnotherSide;
servoTurn = wait for the servo to be finished turning
  & 90;
  totalWait++;
}

be careful in the better way:
do {turn}
while (true);
```

Цикл

Движение

Переключатель



1

2

3

```
totalWait = firstStop;
```

```
void loop()
```

```
  {turn = lookToOneSide;  
  servoTurn = wait for the servo to be finished turning  
  & 90 deg;  
  totalWait++;
```

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

```
  {turn = lookToAnotherSide;  
  servoTurn = wait for the servo to be finished turning  
  & 90 deg;  
  totalWait++;
```

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

```
  do {turn  
  } while (turn);
```

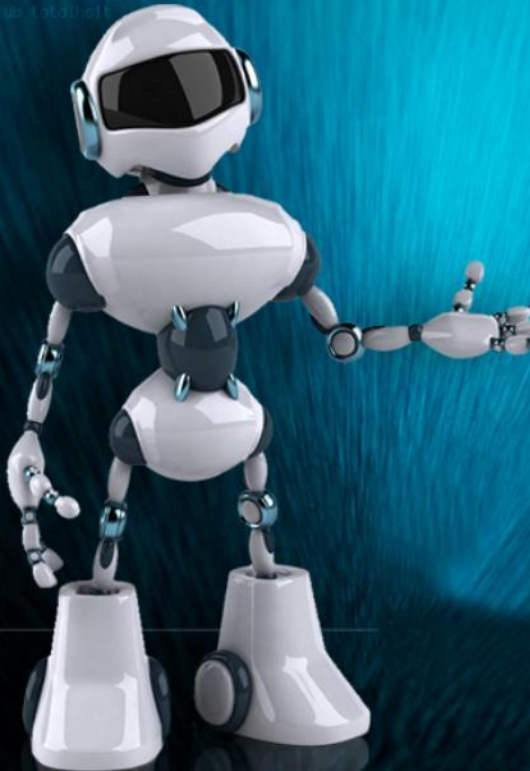
```
  //so again:
```

```
  //turn:
```

```
  { low 0 & 1 low 7 & high 4  
  turn & servo & totalWait;
```

```
  //turn2:
```

```
  { low 0 & 1 low 90 & high 7  
  turn & servo & totalWait;
```



totalWait = firstStop;

void stop;

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;

so which is the better way:

no idea
back to arm

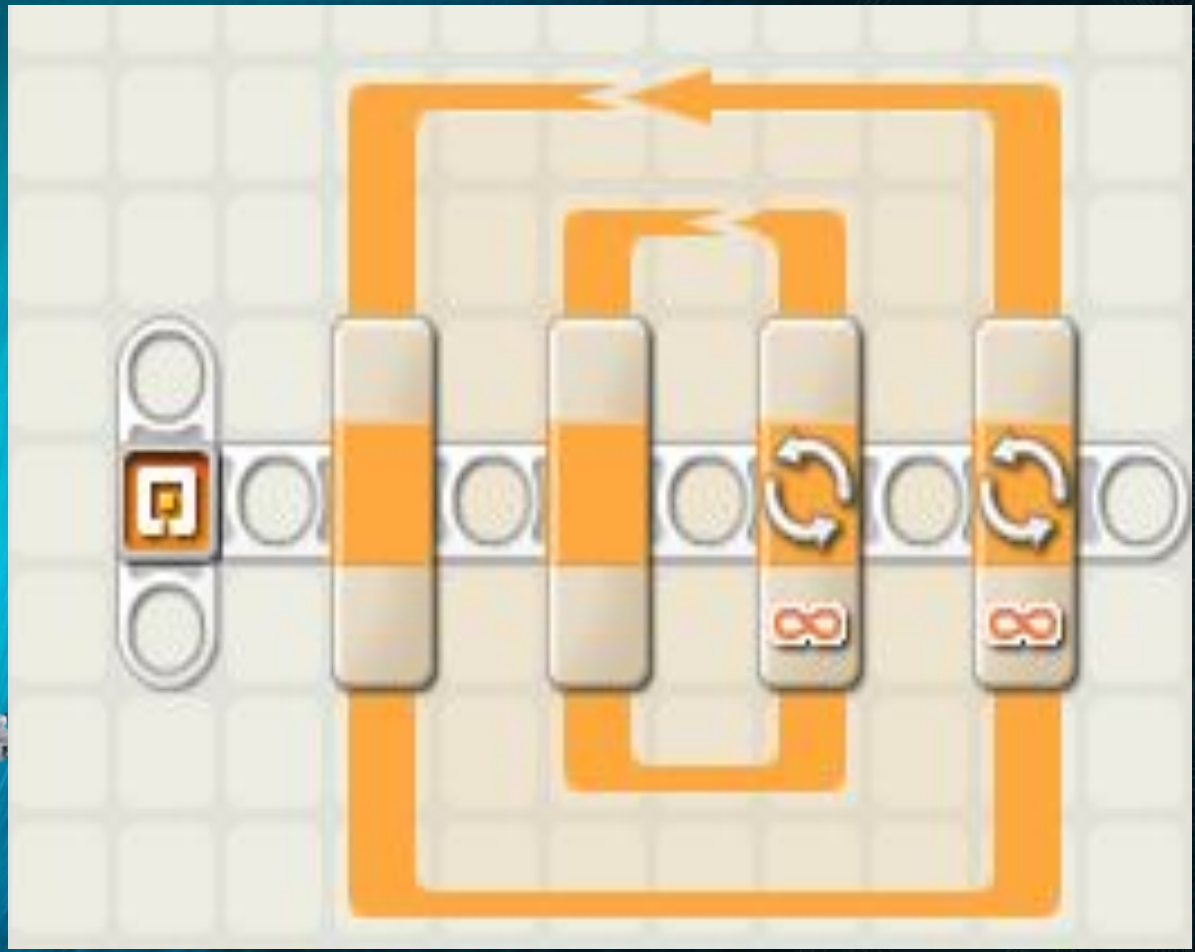
back to arm

turn

low 5 = low 7 = high 4
turn = servo totalWait

turn

low 6 = low 7 = high 7
turn = servo totalWait



totalWait = firstStop;

void stop1

{ turn = lookToOppositeSide;
servoTurn = wait for the servo to be finished turning
& 90 deg;
totalWait++;

the other way:

void stop2 = lookToAnotherSide;
servoTurn = wait for the servo to be finished turning
& 90 deg;
totalWait++;

so which is the better way:

stop1 then
stop2 then

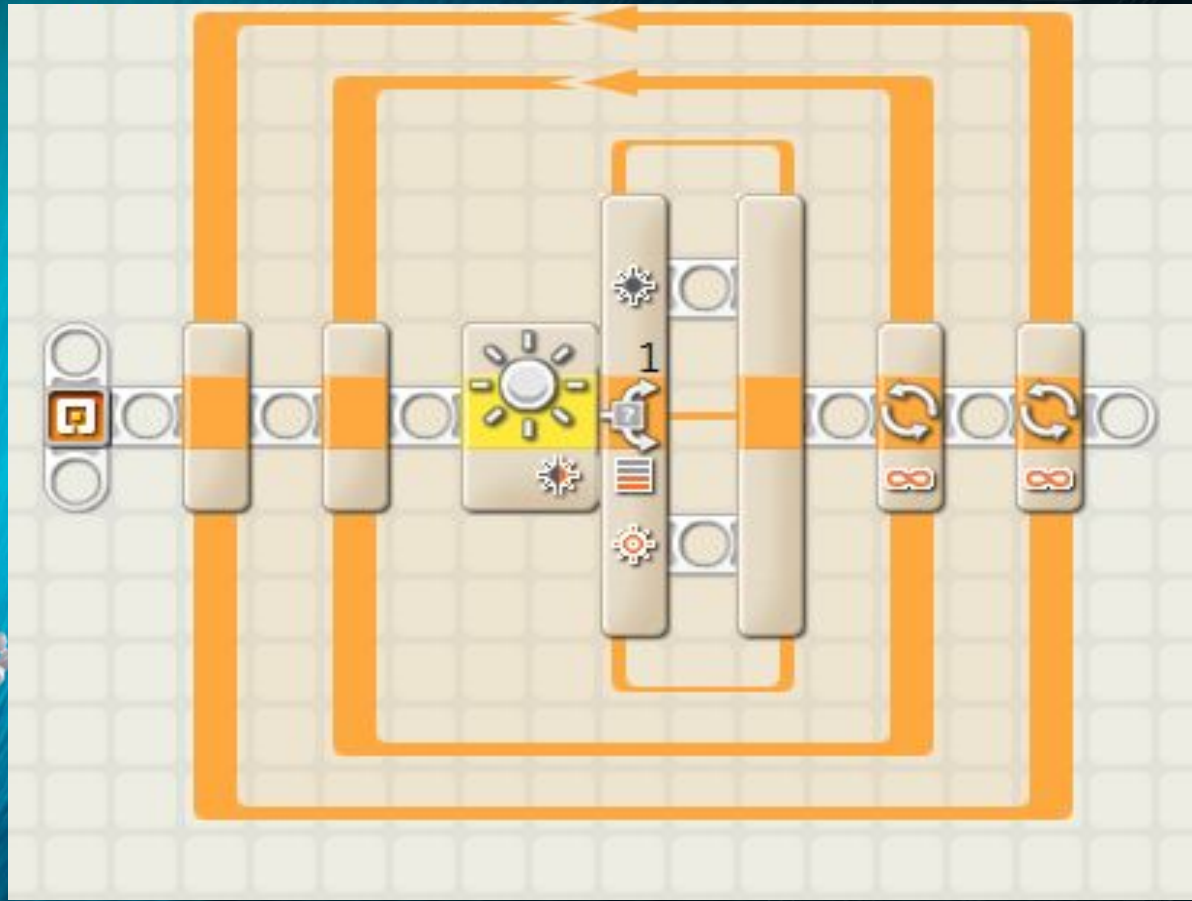
stop1 again

turns

1 = low 2 = low 3 = high 4
turn 1 = servo1 totalWait

turn2

1 = low 2 = low 3 = high 4
turn 2 = servo2 totalWait



totalWait = firstStop;

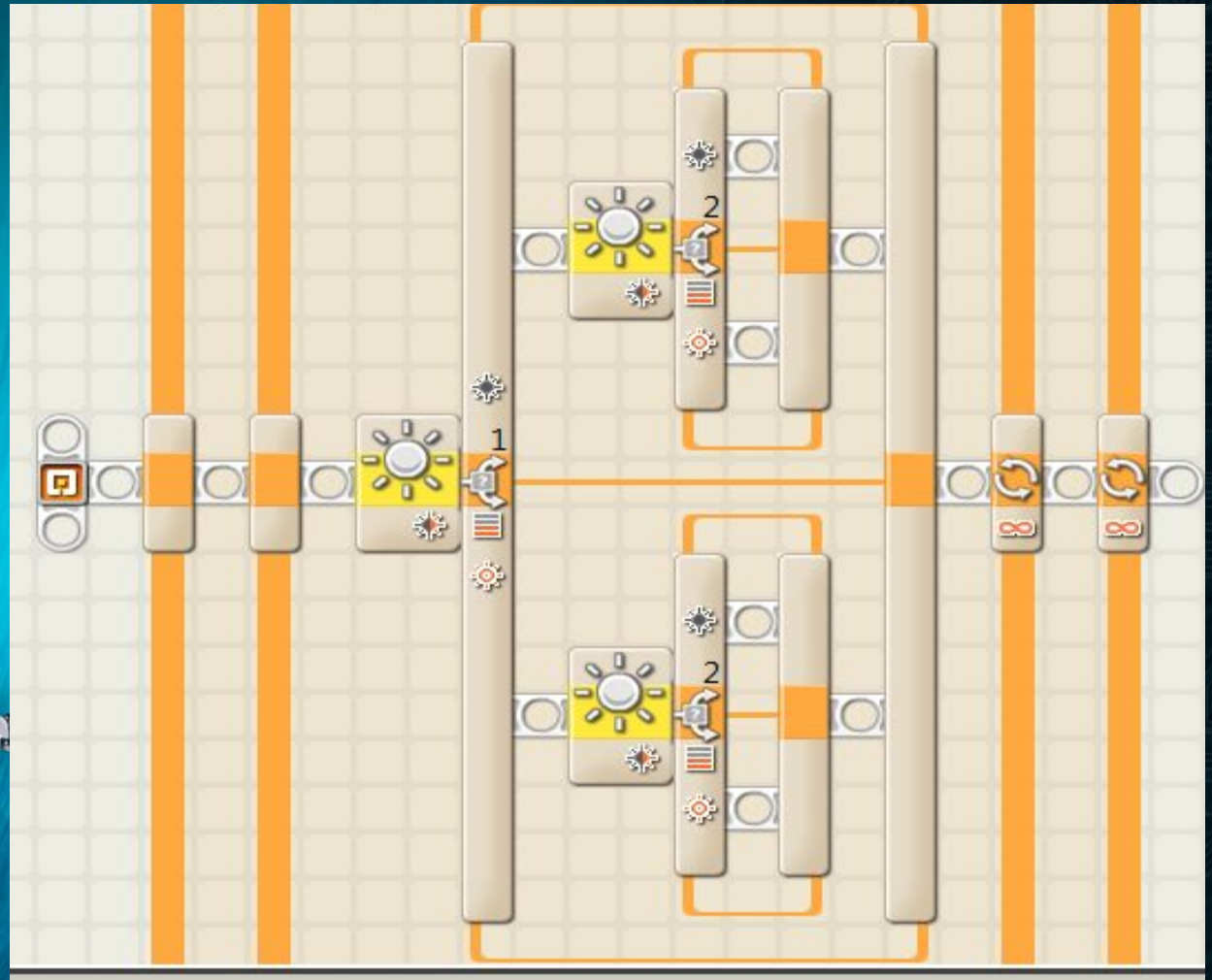
void turn1()
{turn1 = lookToOppositeSide;
servoTurn1 = wait for the servo to be finished turning
to 90;
totalWait++;

the other way:
void turn2 = lookToAnotherSide;
servoTurn2 = wait for the servo to be finished turning
to 90;
totalWait++;

is which is the better way?
or then
both to go
both to turn

turn1
turn1 = low 5 + low 7 + high 4
turn2 = servo1 + servo2

turn2
turn2 = low 6 + low 9 + high 7
turn3 = servo3 + servo4



totalWait = firstStop;

void turn()

turn() { lookToOppositeSide();
servoTurn(); wait for the servo to be finished turning
return; }
totalWait++;

the other way:

turn() { lookToAnotherSide();
servoTurn(); wait for the servo to be finished turning
return; }
totalWait++;

is which is the better way?

no, then
back to arm

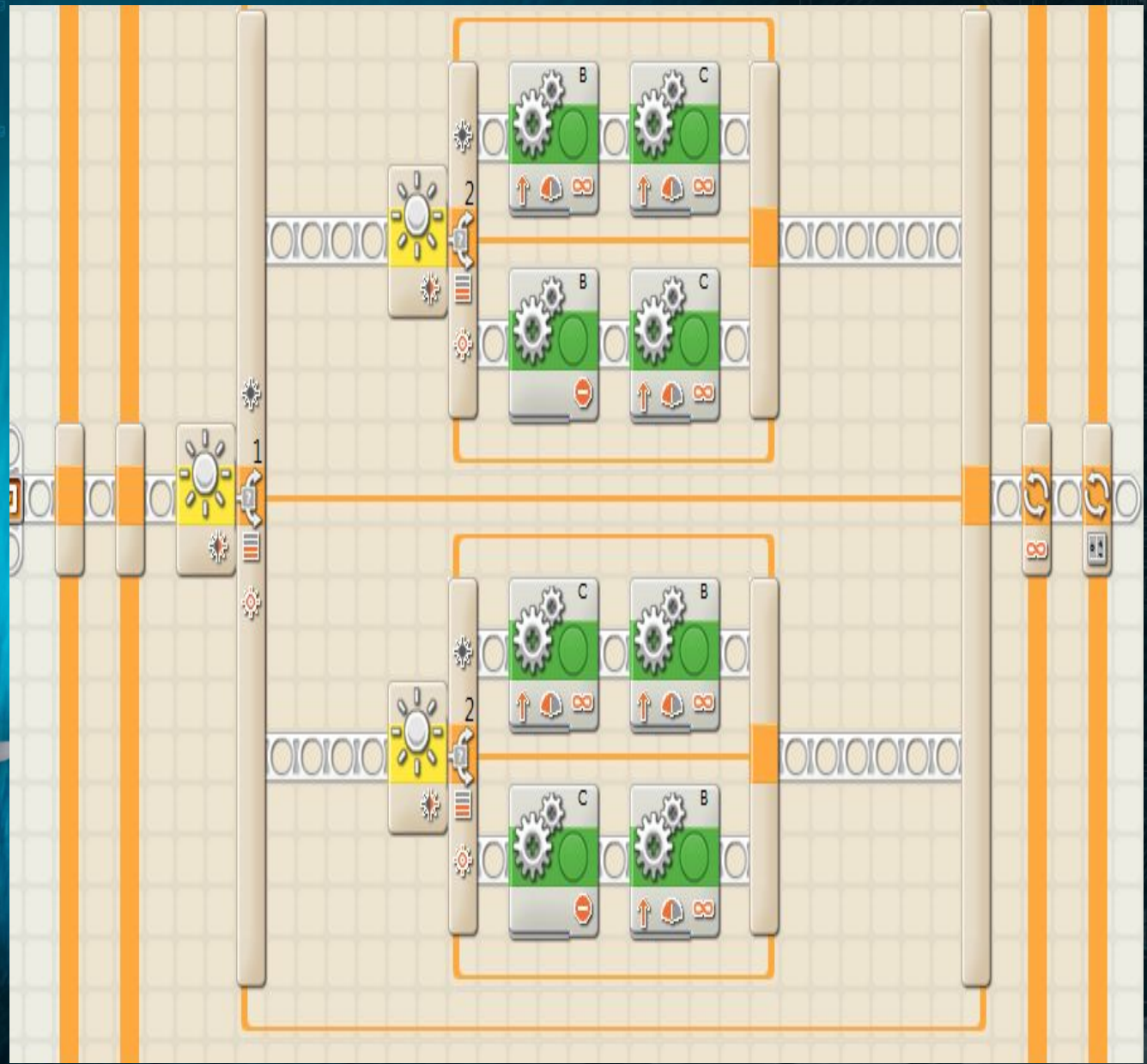
back to arm

turns

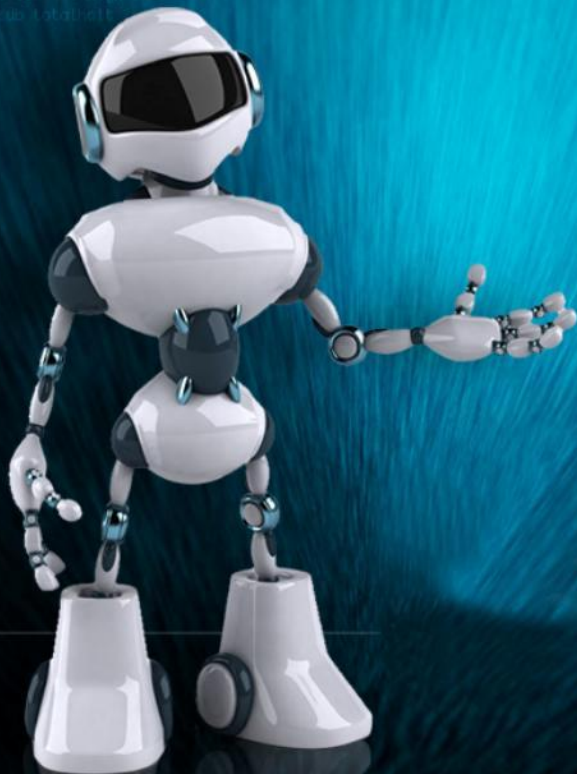
low 0, 1, low 2, high 4
turn 2, servo, totalWait

turns

low 0, 1, low 2, high 2
turn 2, servo, totalWait



Загружаем программу




```
totalWait = firstStop;
```

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

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

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

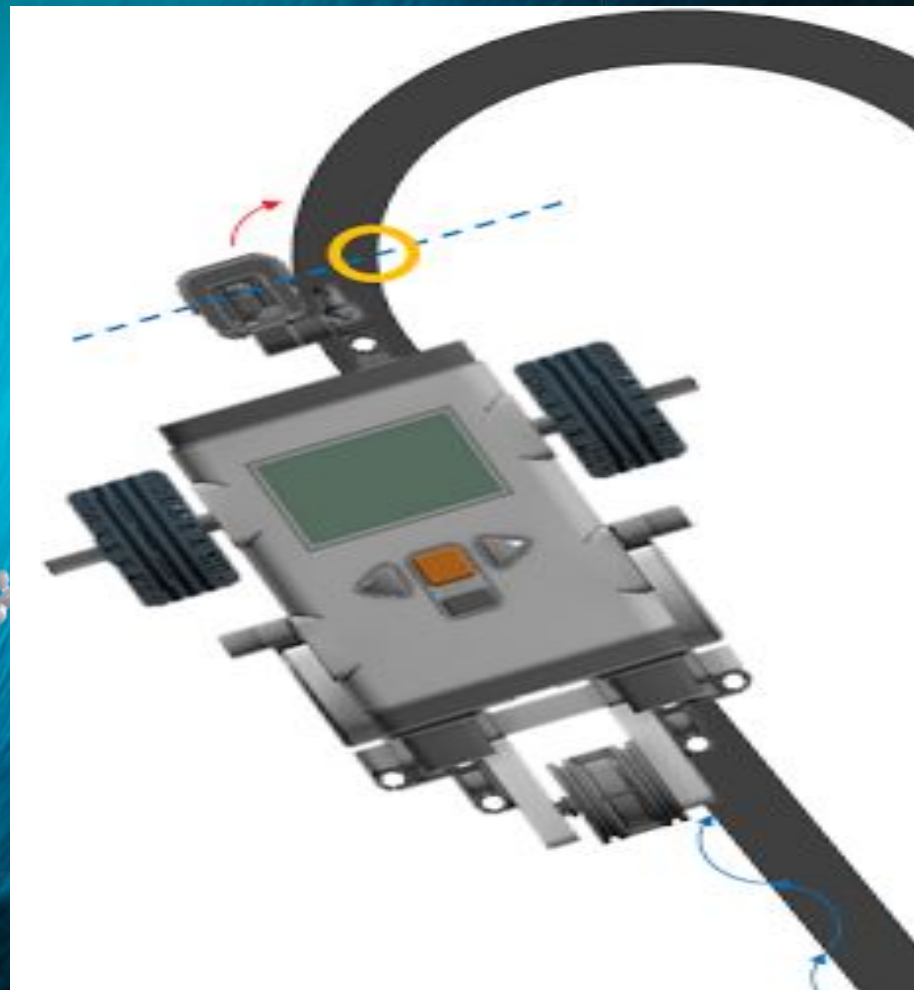
```
void setup()
```

```
turns  
  // low 0 : low 7 : high 4  
  turn = servo & totalWait;
```

```
turns  
  // low 0 : low 7 : high 7  
  turn = servo & totalWait;
```



Тестирование



```
totalWait = first_stop!  
  
void loop()  
{turn = look_to_one_side  
servo_turn & wait for the servo to be finished turning  
& n; //  
totalWait!}
```

```
the other way:  
void loop()  
{turn = look_to_another_side  
servo_turn & wait for the servo to be finished turning  
& n; //  
totalWait!}
```

```
is either is the better way:  
// turn  
back to 0;
```

```
void setup()  
{pinMode(9, OUTPUT);  
turn = 0; servo.attach(9);  
totalWait = 0;}
```

```
void loop()  
{look = 1; // look to right  
turn = servo_turn; // turn & wait
```

Спасибо за

продуктивную работу!!!

