Basics of NXC

Basic Functions

1. To move forward : *OnFwd(OUT\_ports of wheels, Potency);*
   * Ex: OnFwd(OUT\_BC, 45);
2. To move Backwards : *OnRev(OUT\_ports of whells, Potency);*
   * Ex: OnRev(OUT\_BC, 45);
3. To Determine for how long the function should work: *wait(time);*
   * Ex: OnFwd(OUT\_BC, 45);

Wait(1000);//move forward for a 1000 milliseconds;

1. To Turn: Move forwards or Backward with just *one wheel*
   * Ex: OnRev(OUT\_C, 75);

Wait(360);

1. To power off wheels: *Off(OUT\_Ports of wheels);*
   * Ex: Off(OUT\_AC);

To Use Sensors

1. To Use light sensor: *SetSensorLight(IN\_port of sensor);* then just use *Sensor(IN\_port of sensor);*
   * Ex: task main()

{

SetSensorLight(IN\_3);

SetSensorLight(IN\_1);

//OnFwd(OUT\_BC, 30);

while (true)

{

if (Sensor(IN\_3) < THRESHOLD || Sensor(IN\_1)<THRESHOLD )

{

// OnRev(OUT\_C, 30);

//Wait(100);

//until(Sensor(IN\_3) <= THRESHOLD);

OnFwd(OUT\_BC, 70);

Wait(200);

}

1. To use sound sensor: Same as light sensor but for the declaration type: *SetSensorSound(IN\_port of sensor);*
2. For touch sensor: *SetSensor(IN\_Port of sensor,SENSOR\_TOUCH);* then *SENSOR\_Port of Sensor*
   * Ex: SetSensor(IN\_1,SENSOR\_TOUCH);

if (SENSOR\_1 == 1)

{

OnRev(OUT\_BC, 75); Wait(300);

OnFwd(OUT\_B, 75); Wait(300);

OnFwd(OUT\_BC, 75);

}

1. For Ultrasonic sensor: *SetSensorLowspeed(IN\_Port of Sensor);* then use *SensorUS(IN\_Port of Sensor);*
   * Ex: task main(){

SetSensorLowspeed(IN\_4);

while(true){

OnFwd(OUT\_BC,50);

while(SensorUS(IN\_4)>NEAR);

Off(OUT\_BC);

OnRev(OUT\_C,100);

Wait(800);

}

}

Variables, Loops and Conditions

1. To declare a variable: *data type name of variable*
   * Ex: int number;
2. To declare a constant: *#define name of variable value;*
   * Ex: #define THRESHOLD 40;
3. For an If Statement: Same as in c or c++, *if(condition){statement;}*
   * Ex: int a = 0;

task main()

{

while(true)

{

OnFwd(OUT\_BC, 75);

Wait(MOVE\_TIME);

if (Random() > 0)

OnRev(OUT\_C, 75);

else

OnRev(OUT\_B, 75);

Wait(TURN\_TIME);

}

}

1. To use do while loop: Same as in c or c++
   * Ex: int move\_time, turn\_time, total\_time;

task main()

{

total\_time = 0;

do

{

move\_time = Random(1000);

turn\_time = Random(1000);

OnFwd(OUT\_BC, 75);

Wait(move\_time);

OnRev(OUT\_C, 75);

Wait(turn\_time);

total\_time += move\_time;

total\_time += turn\_time;

}

while (total\_time < 20000);

Off(OUT\_BC);

}

1. To play a tone:
   * Ex: task main(){

while(true){

PlayTone(440, 2000); //play tone for n miliseconds

Wait(2000);

PlayTone(3700, 2000);

Wait(2000);

PlayTone(220, 2000);

Wait(2000);

}

}