```
/*
////        Defining some used stuff
*/

// Defining F_CPU, rx & tx ubrr and baud rate
#define F_CPU 16000000UL
#define BAUD 9600
#define MYUBRR F_CPU/(long(16) * BAUD) -1
#define SPEED 255
#define RIGHT 30
#define FRONT 90
#define LEFT 150

#define bitIsSet(macro, bit) ((macro & _BV(bit)))
#define bitIsClear(macro, bit) (!(macro & _BV(bit)))
#define loopUntilBitIsSet(macro, bit) do { } while (bitIsSet(macro, bit))
#define loopUntilBitIsClear(macro, bit) do { } while (bitIsClear(macro, bit))

/*
////        including liberaries
*/

#include <AFMotor.h>
#include <avr/interrupt.h>
#include <avr/cpufunc.h>
#include <util/delay.h>
#include <avr/sleep.h>
#include <avr/interrupt.h>
#include <Servo.h>

AF_DCMotor fan(1);
AF_DCMotor left(2);
AF_DCMotor right(3);
Servo servo

bool manuallyOn;

void setup() {
  // put your setup code here, to run once:

   /*
  ////        Setup
```

```
43    */
44
45    fan.setSpeed(SPEED);
46    left.setSpeed(SPEED);
47    right.setSpeed(SPEED);
48    servo.attach(10);
49
50    // Set baud rate
51    UBRR0H =(MYUBRR >> 8);
52    UBRR0L = MYUBRR;
53    // Enable receiver and transmitter
54    UCSR0B = _BV(RXEN0);
55    // Set frame format: 8data, 1stop bit
56    UCSR0C = _BV(UCSZ01) | _BV(UCSZ00);
57
58
59  }
60
61  void loop() {
62    handleFire();
63    moveCar();
64  }
65
66  void handleFire() {
67    if (analogRead(A0) < 600) {
68      fan.run(FORWARD);
69      return;
70    }
71    if (!manuallyOn) {
72      fan.run(RELEASE);
73    }
74  }
75
76
77  void moveCar() {
78
79    if (bitIsClear(UCSR0A, RXC0)) {
80      return;
81    }
82
83    switch (UDR0)
84      {
```

```
85      case 'F':
86        left.run(FORWARD);
87        right.run(FORWARD);
88        break;
89      case 'B':
90        left.run(BACKWARD);
91        right.run(BACKWARD);
92        break;
93      case 'R':
94        left.run(FORWARD);
95        right.run(RELEASE);
96        break;
97      case 'L':
98        left.run(RELEASE);
99        right.run(FORWARD);
100       break;
101     case 'D':
102       manuallyOn = true;
103       fan.run(FORWARD);
104       break;
105     case 'S':
106       manuallyOn = false;
107       fan.run(RELEASE);
108       break;
109     default:
110       left.run(RELEASE);
111       right.run(RELEASE);
112       fan.run(RELEASE);
113       break;
114     }
115
116 }
117
118 void setPosition(char direction) {
119   if (position == 0) {
120     servo.write(FRONT);
121     return;
122   }
123   for (char i = FRONT; i  < RIGHT; i += direction) {
124     servo.write(i);
125     delay(10);
126   }
```

```
127
128  }
```