

Додаток А

Програмний код до мікроконтролера Arduino UNO

```
int MoveStBackPwmPin = 3;
int MoveRtLtPwmPin = 5;
int BuckedUpDnPin = 6;
int LightSwitch = 9;
int OisSwPin = 10;
int LightPin = 4;
int OilUnitPin = 7;
int warningPin = 8;
int buttonPin = A0;

unsigned int StBcH;
unsigned int RtLtH;
unsigned int BUpDnH;
unsigned int LightSH;
unsigned int OilSH;

int buttonState = 0;
bool isWorking = true;

void setup() {
  Serial.begin(9600);
  pinMode(MoveStBackPwmPin, INPUT);
  pinMode(MoveRtLtPwmPin, INPUT);
  pinMode(BuckedUpDnPin, INPUT);
  pinMode(LightSwitch, INPUT);
  pinMode(OisSwPin, INPUT);

  pinMode(LightPin, OUTPUT);
  pinMode(OilUnitPin, OUTPUT);

  pinMode(warningPin, OUTPUT);
  pinMode(buttonPin, INPUT);
}

void loop() {
```

```

buttonState = digitalRead(buttonPin);
if(!isWorking){
  digitalWrite(warningPin, HIGH);
}
if (buttonState == HIGH && !isWorking) {
  isWorking = true;
  digitalWrite(warningPin, LOW);
}
if (buttonState == HIGH && isWorking) {
  isWorking = false;
  digitalWrite(warningPin, HIGH);
}
else {
  digitalWrite(warningPin, LOW);
}

StBcH = pulseIn(MoveStBackPwmPin, HIGH);

RtLtH = pulseIn(MoveRtLtPwmPin, HIGH);

BUpDnH = pulseIn(BuckedUpDnPin, HIGH);

LightSH = pulseIn(LightSwitch, HIGH);

OilSH = pulseIn(OisSwPin, HIGH);

if (StBcH != 0 && isWorking) {
  String message = "";
  if(StBcH >= 1300 || StBcH <= 750){
    if(StBcH>=1300){
      message = message + "1 11 ";
    }else if(StBcH<=750){
      message = message + "1 12 ";
    }
    message +=StBcH;
    message +=",";
    Serial.println(message);
    String tmpstr = "";
    tmpstr = Serial.readStringUntil('\n');
  }
}

```

```

delay(4000);
if(tmpstr){
  if(tmpstr!=message){
    isWorking = false;
  }
  else{
    isWorking = true;
  }
}
}
}
if (RtLtH != 0 && isWorking) {
String message = "";
  if(RtLtH>=1300){
    message = message + "1 21 ";
  }else if(RtLtH<=750){
    message = message + "1 22 ";
  }else{
    message = message + "1 23 ";
  }
  message +=RtLtH;
  message +="";
  Serial.println(message);
  String tmpstr = "";
  tmpstr = Serial.readStringUntil('\n');
  delay(5000);
  if(tmpstr){
    if(tmpstr!=message){
      isWorking = false;
    }
    else{
      isWorking = true;
    }
  }
}

if (BUpDnH != 0 &&isWorking) {
String message = "";
if(BUpDnH >= 1300 || BUpDnH <= 750)
  if(StBcH>=1300){
    message = message + "2 31 ";
  }
}

```

```

}else if(StBcH<=750){
message = message + "2 32 ";
}
message +=BUpDnH;
message +="";
Serial.println(message);
String tmpstr = "";
tmpstr = Serial.readStringUntil('\n');
delay(5000);
if(tmpstr){
  if(tmpstr!=message){
    isWorking = false;
  }
  else{
    isWorking = true;
  }
}
}
if (LightSH != 0 && isWorking) {
  if(LightSH <= 1500 && LightSH >= 1300){
    digitalWrite(LightPin, HIGH);
    Serial.println("Light On");
  }
  else{
    digitalWrite(LightPin, LOW);
    Serial.println("Light Off");
  }
}
}

if (OilSH != 0 &&isWorking) {
  if(OilSH <= 1500 && OilSH >= 1300){
    digitalWrite(OilUnitPin, HIGH);
    Serial.println("Oil On");
  }
  else {
    digitalWrite(OilUnitPin, LOW);
    Serial.println("Oil Off");
  }
}
}

```

```
    delay(1000);  
}
```

ДОДАТОК Б
Демонстраційний матеріал

