

ДОДАТОК А

Лістинг програми для керування макетом автоматизованого дозувальника технологічних рідин

```
#include <HX711.h>

int Trig = 9;
int Echo = 10;
int stepPin = 2;
int dirPin = 3;

const int inForw1 = 7;
const int inBack1 = 8;
const int inForw2 = 9;
const int inBack2 = 10;
const int DT_PIN = A1;
const int SCK_PIN = A0;

HX711 scale;

float weight = 0.0;
bool start = false;

void setup() {
    Serial.begin(9600);
    pinMode(Trig, OUTPUT);
    pinMode(Echo, INPUT);

    pinMode(inForw1, OUTPUT);
```

```
pinMode(inBack1, OUTPUT);
pinMode(inForw2, OUTPUT);
pinMode(inBack2, OUTPUT);
pinMode(stepPin, OUTPUT);
pinMode(dirPin, OUTPUT);
scale.begin(DT_PIN, SCK_PIN);
scale.set_scale(-107,2);
scale.tare();
Serial.println("Enter the number");
}
```

```
void loop() {
  if (Serial.available() > 0 && !start) {
    int userValue = Serial.parseInt();
    int command = userValue;

    if (command == 1) {
      weight = 100.0;
      process();
    } else if (command == 2) {
      weight = 50.0;
      executeTask();
    } else if (command == 3) {
      weight = 25.0;
      process();
    }
  }
}
```

```

    } else if (userValue > 3 && userValue <= 150) {
        weight = userValue;
        process();
    } else {
        Serial.println("Invalid input");
        Serial.println("Enter the number");
        return;
    }
    Serial.println("Process...");
    start = true;
}
}

void process() {
    long duration, cm;
    digitalWrite(Trig, LOW);
    delayMicroseconds(5);
    digitalWrite(Trig, HIGH);
    delayMicroseconds(10);
    digitalWrite(Trig, LOW);
    duration = pulseIn(Echo, HIGH);
    cm = (duration / 2) / 29.1;

    while (cm < 30) {
        digitalWrite(dirPin, HIGH);
        digitalWrite(stepPin, HIGH);
    }
}

```

```
delayMicroseconds(500);  
digitalWrite(stepPin, LOW);  
delayMicroseconds(500);
```

```
digitalWrite(Trig, LOW);  
delayMicroseconds(5);  
digitalWrite(Trig, HIGH);  
delayMicroseconds(10);  
digitalWrite(Trig, LOW);  
duration = pulseIn(Echo, HIGH);  
cm = (duration / 2) / 29.1;  
}  
digitalWrite(stepPin, LOW);  
delay(1000);
```

```
while (scale.get_units() < weight) {  
    digitalWrite(inForw1, HIGH);  
    digitalWrite(inBack1, LOW);  
}  
digitalWrite(inForw1, LOW);  
digitalWrite(inBack1, LOW);
```

```
while (scale.get_units() < weight * 2) {  
    digitalWrite(inForw2, HIGH);  
    digitalWrite(inBack2, LOW);
```

```
}  
  
digitalWrite(inForw2, LOW);  
digitalWrite(inBack2, LOW);  
delay(1000);  
  
while (cm < 45) {  
    digitalWrite(dirPin, HIGH);  
    digitalWrite(stepPin, HIGH);  
    delayMicroseconds(500);  
    digitalWrite(stepPin, LOW);  
    delayMicroseconds(500);  
  
    digitalWrite(Trig, LOW);  
    delayMicroseconds(5);  
    digitalWrite(Trig, HIGH);  
    delayMicroseconds(10);  
    digitalWrite(Trig, LOW);  
    duration = pulseIn(Echo, HIGH);  
    cm = (duration / 2) / 29.1;  
}  
  
digitalWrite(stepPin, LOW);  
delay(1000);  
  
while (cm > 5) {
```

```
digitalWrite(dirPin, LOW);  
digitalWrite(stepPin, HIGH);  
delayMicroseconds(500);  
digitalWrite(stepPin, LOW);  
delayMicroseconds(500);
```

```
digitalWrite(Trig, LOW);  
delayMicroseconds(5);  
digitalWrite(Trig, HIGH);  
delayMicroseconds(10);  
digitalWrite(Trig, LOW);  
duration = pulseIn(Echo, HIGH);  
cm = (duration / 2) / 29.1;  
}
```

```
digitalWrite(stepPin, LOW);  
start = false;  
Serial.println("Ready!");  
Serial.println("Enter the number");  
}
```

ДОДАТОК Б

Демонстраційний матеріал у вигляді презентації

