soil-moisture-sensing-system 0.0.0

Open this page at **https://stemax-tech.github.io/soil-moisture-sensing-system/** (https://stemax-tech.github.io/soil-moisture-sensing-system/)

Use as Extension

This repository can be added as an **extension** in MakeCode.

- open **https://makecode.microbit.org/** (https://makecode.microbit.org/)
- click on **New Project**
- click on **Extensions** under the gearwheel menu
- search for **https://github.com/stemax-tech/soil-moisture-sensing-system** (https://github.com/stemax-tech/soil-moisture-sensing-system) and import

Edit this project

To edit this repository in MakeCode.

- open **https://makecode.microbit.org/** (https://makecode.microbit.org/)
- click on **Import** then click on **Import URL**
- paste **https://github.com/stemax-tech/soil-moisture-sensing-system** (https://github.com/stemax-tech/soil-moisture-sensing-system) and click import

Metadata (used for search, rendering)

- for PXT/microbit

makeCodeRender("{{ site.makecode.home_url }}", "{{ site.github.owner_name }}/{{ site.github.repository_name }}");
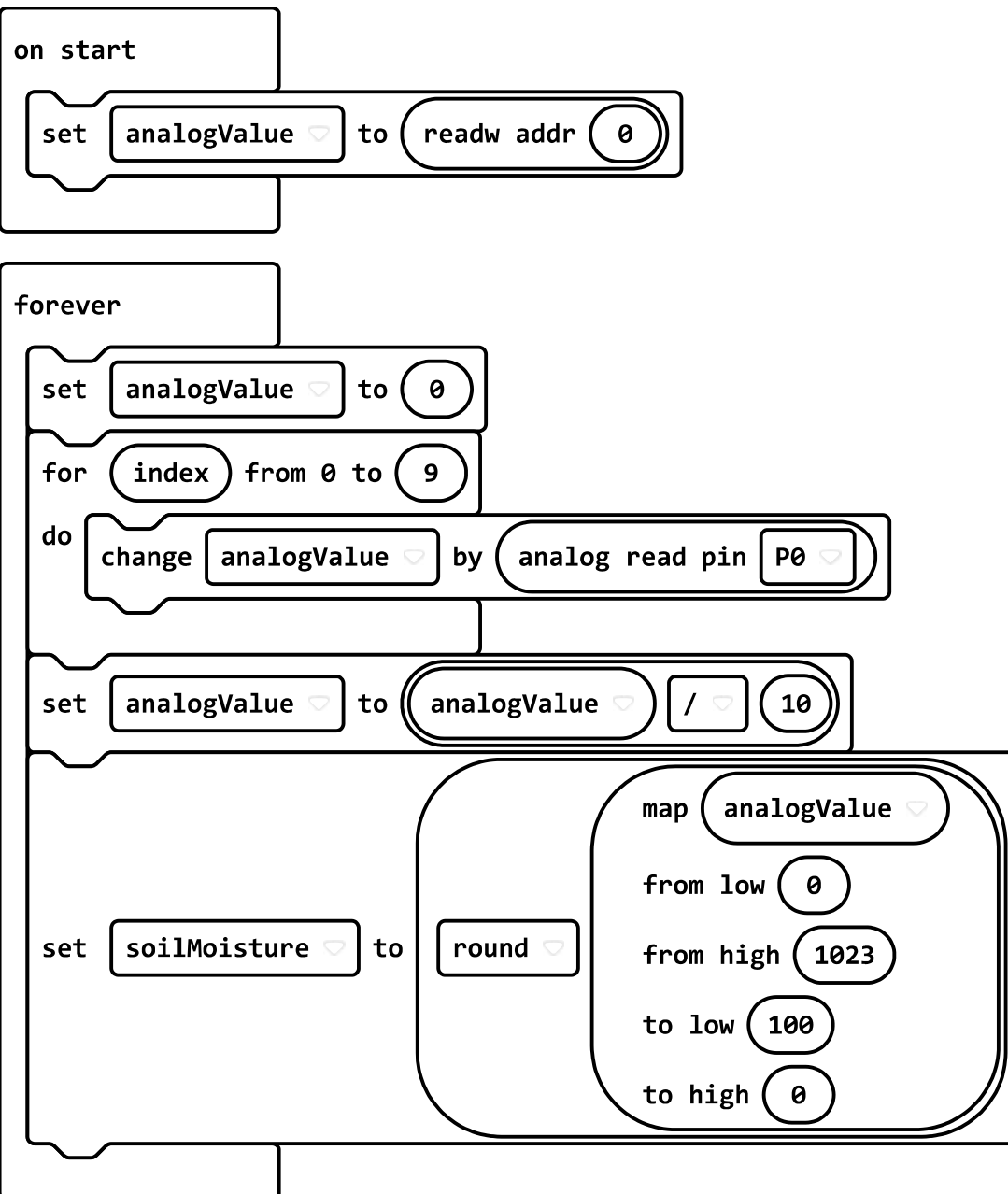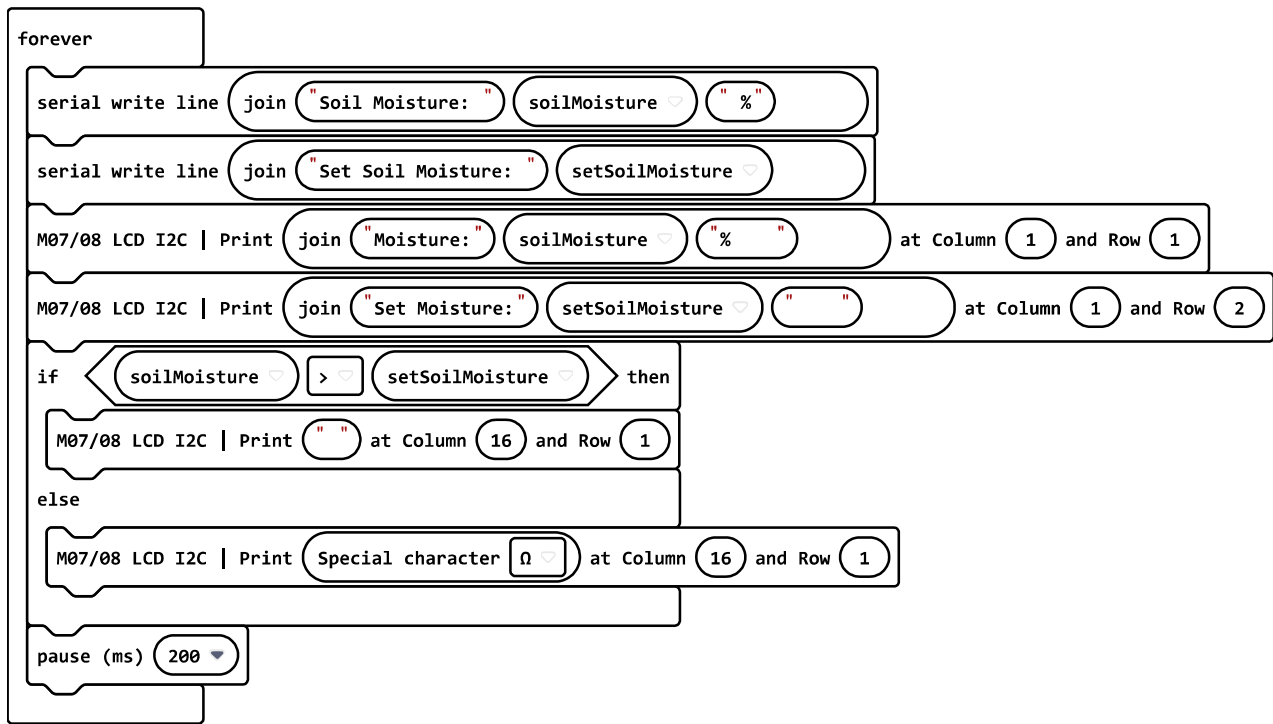

Connection Diagram

Diagram-Soil Moisture Control Pump.png (https://drive.google.com/file/d/1CW_uSYA-ttbX3JVqwEMtzUIBld55LgJY/)

Program Blocks

Soil Moisture Control Pump.png

(https://drive.google.com/file/d/1rbeYSFnpudw2aLIM3v9iOgSdDgPaM4Bk/view?usp=drive_link)

```
on start
    set  analogValue  to ( readw addr ( 0 )

forever
    set  analogValue  to ( 0 )
    for ( index ) from 0 to ( 9 )
    do  change  analogValue  by ( analog read pin  P0 )
    set  analogValue  to ( analogValue  / ( 10 )
    set  soilMoisture  to ( round ( map  analogValue
                                        from low ( 0 )
                                        from high ( 1023 )
                                        to low ( 100 )
                                        to high ( 0 )
```

```
forever
    serial write line  join " Soil Moisture: "  soilMoisture  " % "
    serial write line  join " Set Soil Moisture: "  setSoilMoisture
    M07/08 LCD I2C | Print  join " Moisture: "  soilMoisture  " % "  at Column  1  and Row  1
    M07/08 LCD I2C | Print  join " Set Moisture: "  setSoilMoisture  " "  at Column  1  and Row  2
    if  soilMoisture  >  setSoilMoisture  then
        M07/08 LCD I2C | Print  " "  at Column  16  and Row  1
    else
        M07/08 LCD I2C | Print  Special character Ω  at Column  16  and Row  1
    pause (ms)  200
```

```
forever
    if < button [A ▽] is pressed > then
        change [setSoilMoisture ▽] by (-1)
        if < (setSoilMoisture ▽) [< ▽] (100) > then
            set [setSoilMoisture ▽] to (0)
        show leds
            □ □ □ □ □
            □ □ □ □ □
            □ ■ ■ ■ □
            □ □ □ □ □
            □ □ □ □ □
    else if < button [B ▽] is pressed > then
        change [setSoilMoisture ▽] by (1)
        if < (setSoilMoisture ▽) [> ▽] (0) > then
            set [setSoilMoisture ▽] to (100)
        show leds
            □ □ □ □ □
            □ □ ■ □ □
            □ ■ ■ ■ □
            □ □ ■ □ □
            □ □ □ □ □
```
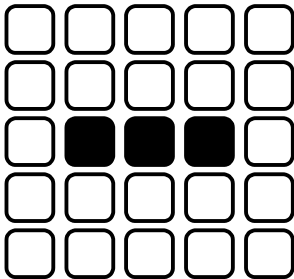
```
if ⟨ logo is pressed ⟩ then
    while ⟨ logo is pressed ⟩
    do
        show icon [icon]

    writew addr ( 0 ) data ( setSoilMoisture ▽ )
    play ( tone ( High A ) for ( 1/4 ▽ beat ) until done ▽ )


forever
    if ⟨ ( soilMoisture ▽ ) ( > ▽ ) ( setSoilMoisture ▽ ) ⟩ then
        Driver | Stop motor [ A ▽ ]
        Driver | Stop motor [ B ▽ ]
    else
        Driver | Control motor [ A ▽ ] rotation [ forward ▽ ] with speed ( 100 ) %
        Driver | Control motor [ B ▽ ] rotation [ forward ▽ ] with speed ( 100 ) %
```
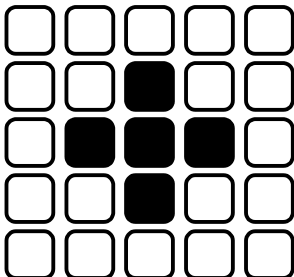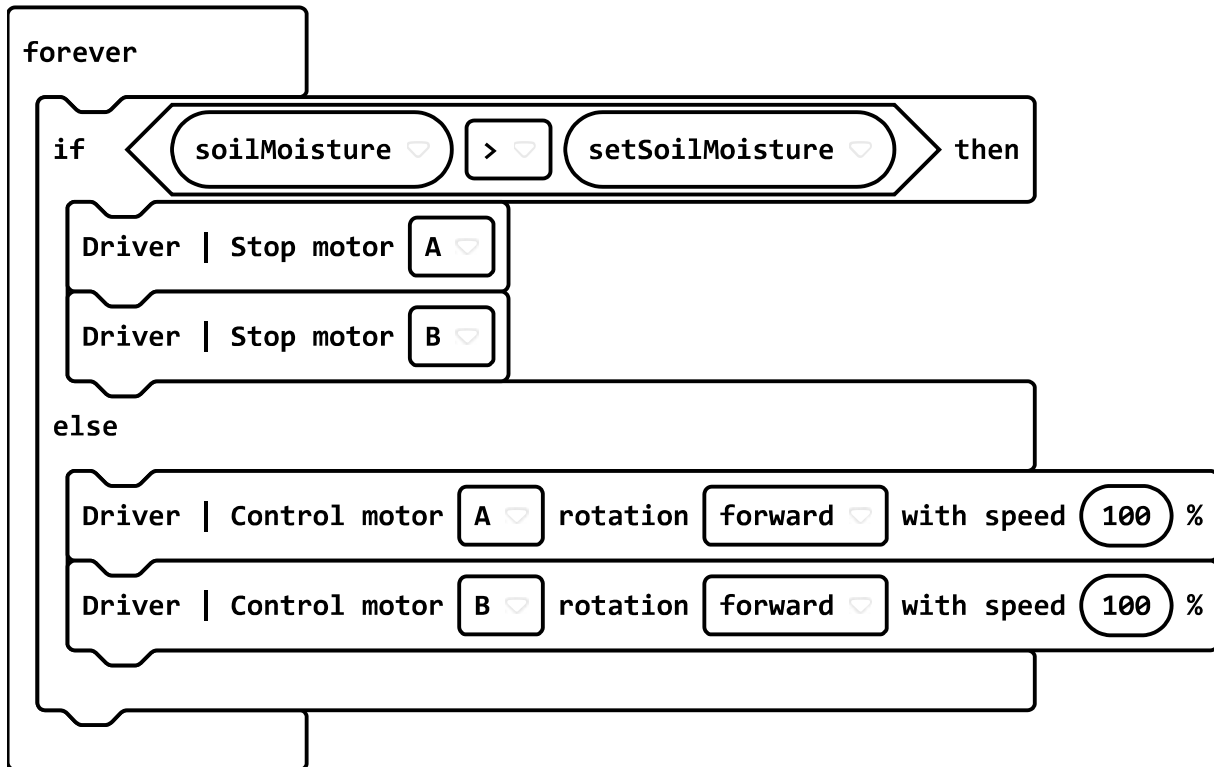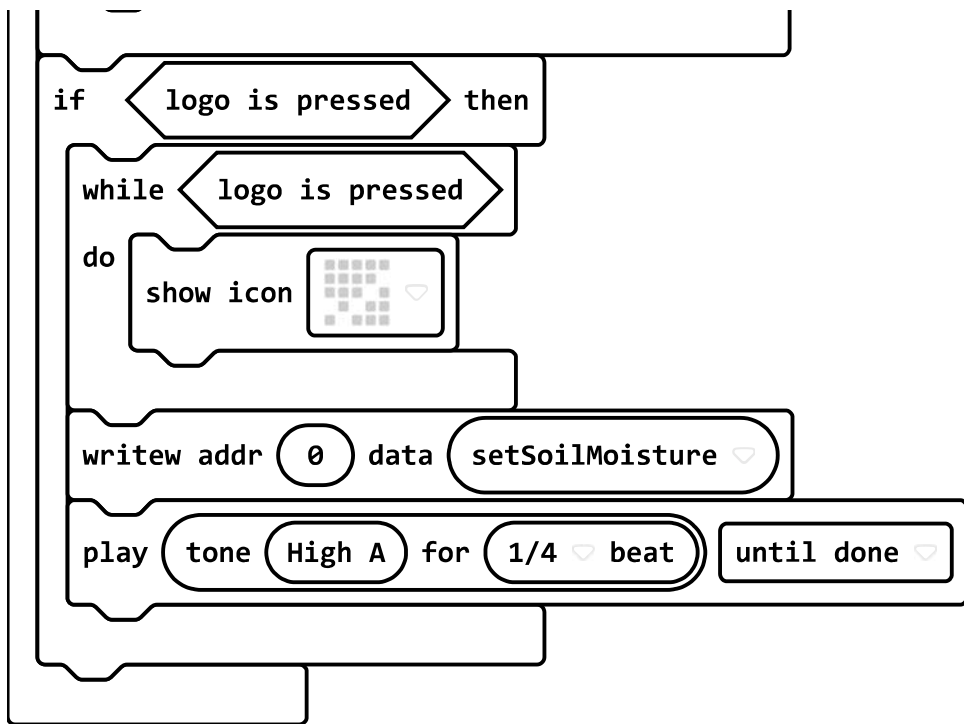
Extensions

- microphone, *
- eprom-microbit, github:zobclub/eprom-microbit#3424f25b4ce6257e2f43f8cff2fb3d3226cd37a2
- MakerEdu_Hardware, github:makerlabvn/MakerEdu_Hardware#v0.0.2