Experimental content: Switch the current interface through the rocker module, there are four control interfaces. Music interface, color light interface, angle rotation interface, wind speed interface.

In the music interface, the song is switched by pressing the button.

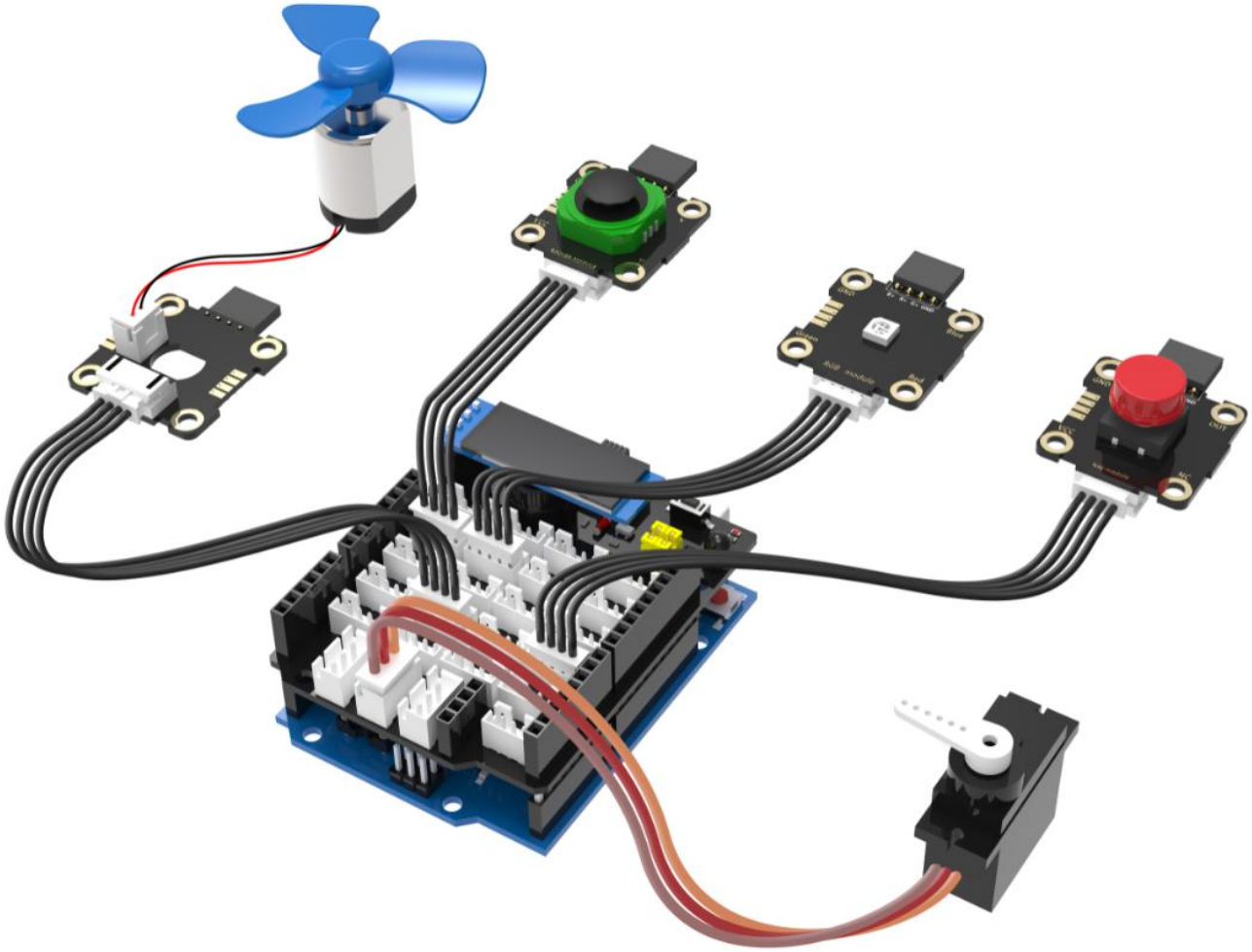
In the color light interface, the color of the light is switched by pressing the button.

In the angle rotation interface, the rotation angle of the servo is switched by pressing the button.

In the wind speed interface, the wind speed is switched by pressing the button.

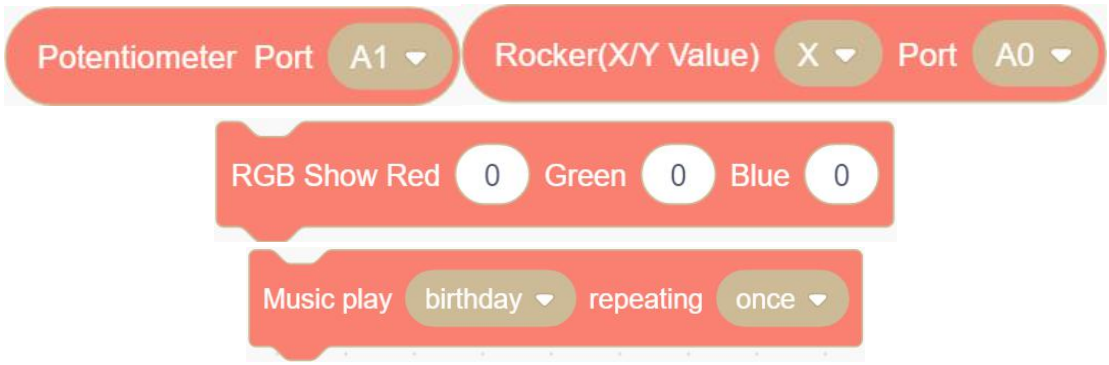
Experiment preparation: UNO board *1, Plugkit sensor expansion board *1, 4pin cable (PH2.0) * 4, USB data cable *1, RGB light module *1, Red button module *1, Rocker module *1, Motor drive module *1, Motor fan *1, 9G metal digital servo *1, 0.91 inch OLED *1

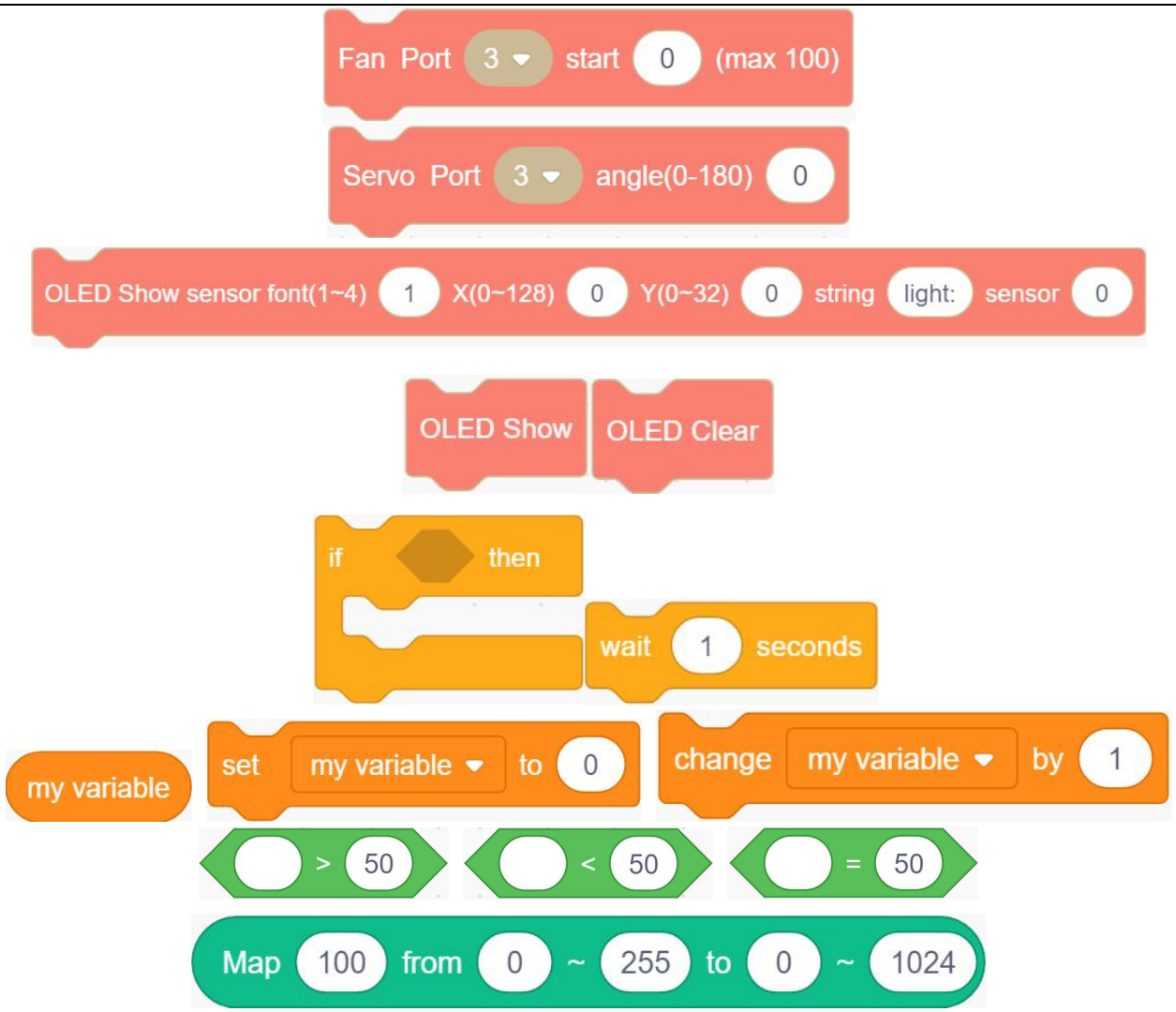
Experimental wiring:



Experimental steps:

1.Select the following blocks in the [Plugkit], [Control], [Operator], [Variable], [arduino].





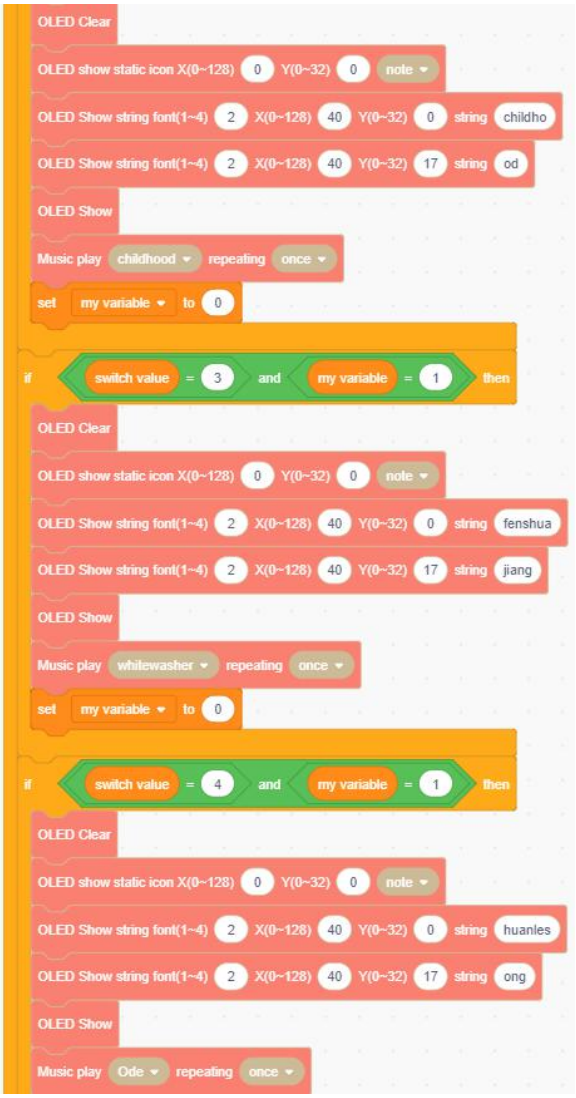
2.Using the rocker to switch the current interface. Move the X direction of the rocker to the left to return to the previous interface. Move the X direction of the rocker to the right to return to the next interface. There are four interfaces in total.

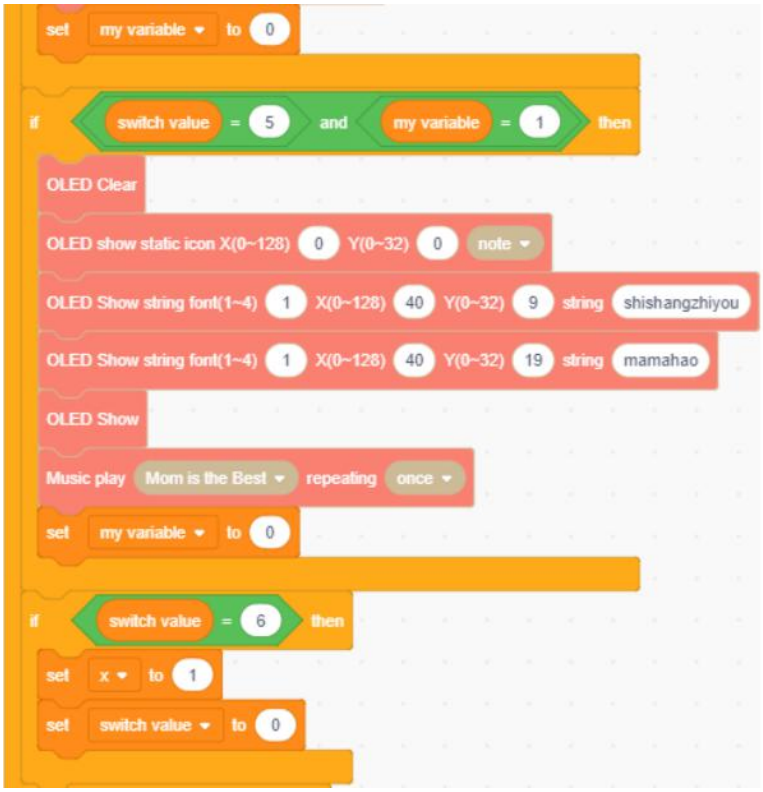
Serial number	Interface
1	Music interface
2	Color light interface
3	Wind speed interface
4	Angle rotation interface

3.In the music interface, when the red button is pressed, the currently playing music will be switched, and there are five pieces of music in total.

Serial number	Music
1	Birthday song
2	Childhood
3	Painter
4	Ode
5	Praise mother

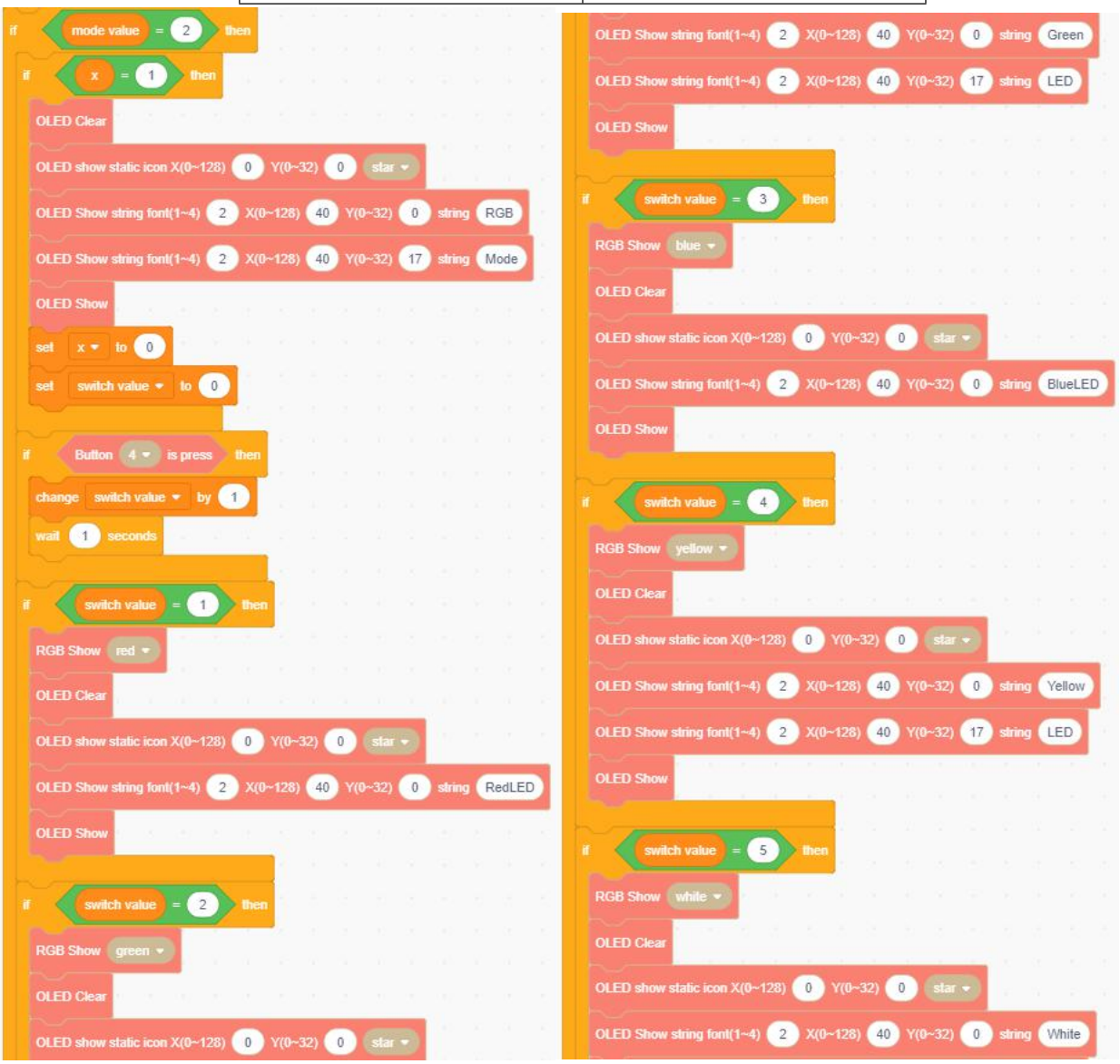
if mode value = 1 then
if x = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string Music
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string Mode
OLED Show
set x to 0
set switch value to 0
if Button 4 is press then
change switch value by 1
set my variable to 1
wait 1 seconds
if switch value = 1 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string birthda
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string y
OLED Show
Music play birthday repeating once
set my variable to 0
if switch value = 2 and my variable = 1 then

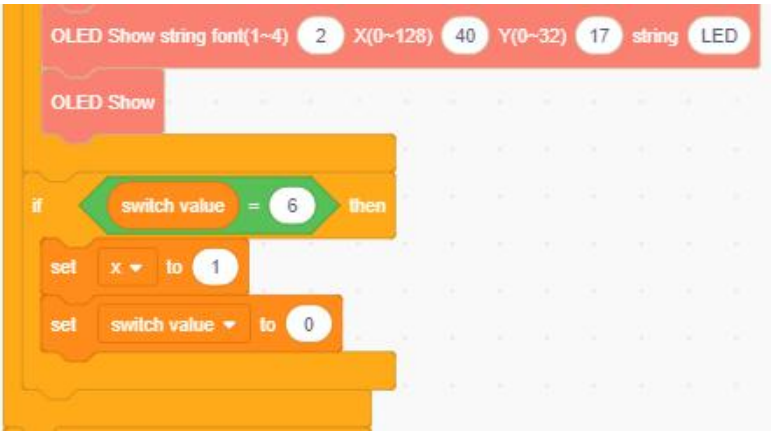

OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string childho
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string od
OLED Show
Music play childhood repeating once
set my variable to 0
if switch value = 3 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string fenshua
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string jiang
OLED Show
Music play whitewasher repeating once
set my variable to 0
if switch value = 4 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string huanles
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string ong
OLED Show
Music play Ode repeating once


set my variable to 0
if switch value = 5 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 1 X(0~128) 40 Y(0~32) 9 string shishangzhiyou
OLED Show string font(1~4) 1 X(0~128) 40 Y(0~32) 19 string mamahao
OLED Show
Music play Mom is the Best repeating once
set my variable to 0
if switch value = 6 then
set x to 1
set switch value to 0

4.In color light interface, when the red button is pressed, the current light color will be switched. There are five colors in total.

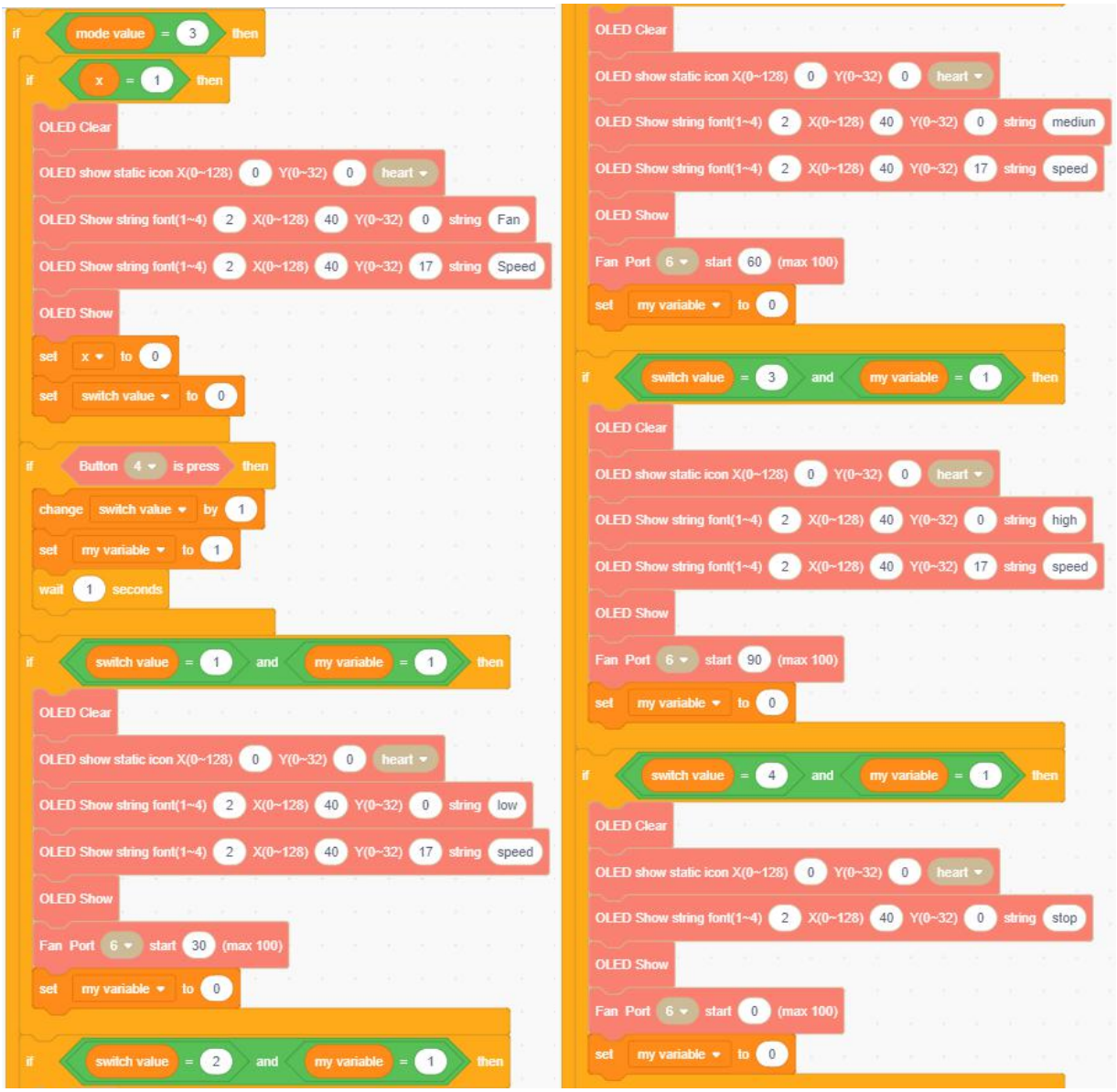
Serial number	Color of light
1	Red light
2	Green light
3	Blue light
4	Yellow light
5	White light

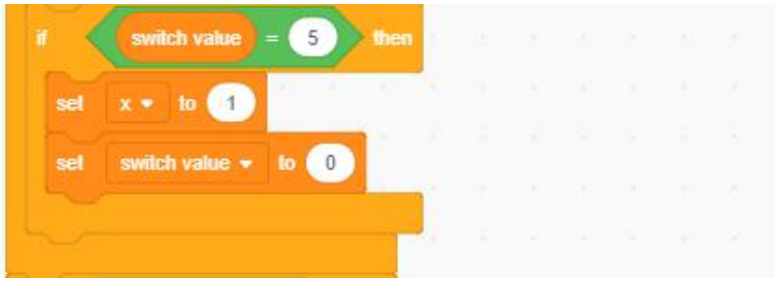




5. In wind speed interface, when the red button is pressed, the current wind speed is switched. There are four gears in total.

Serial number	Wind speed
1	Low speed（30）
2	Medium speed（60）
3	High speed（90）
4	Stop（0）





6.In the angle rotation interface, when the red button is pressed, the current rotation angle is switched. There are five rotation angles in total..

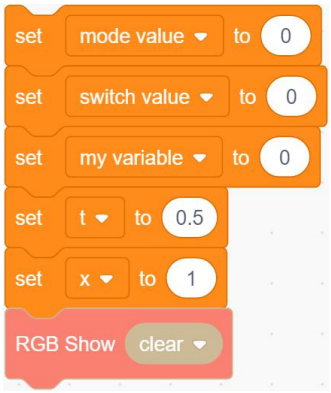
Serial number	Angle
1	0°
2	45°
3	90°
4	135°
5	180°

if mode value = 4 then
if x = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 smile
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string Fan
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string Angle
OLED Show
set x to 0
set switch value to 0
if Button 4 is press then
change switch value by 1
set my variable to 1
wait 1 seconds
if switch value = 1 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string angle:0
OLED Show
Servo Port 5 angle(0-180) 0
set my variable to 0
if switch value = 2 and my variable = 1 then
OLED Clear

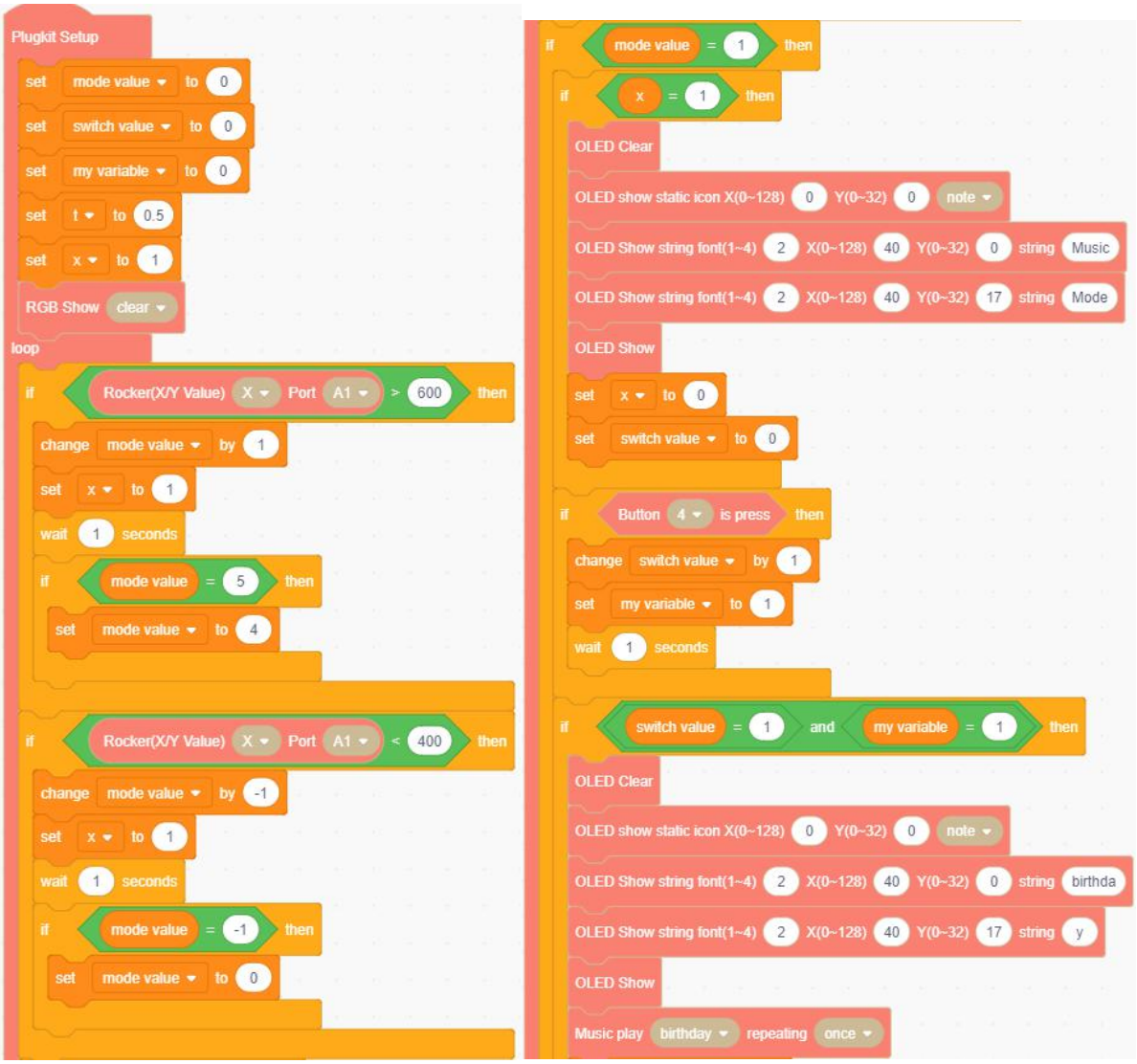
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string angle:
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string 45
OLED Show
Servo Port 5 angle(0-180) 45
set my variable to 0
if switch value = 3 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string angle:
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string 90
OLED Show
Servo Port 5 angle(0-180) 90
set my variable to 0
if switch value = 4 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string angle:
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string 135
OLED Show
Servo Port 5 angle(0-180) 135
set my variable to 0

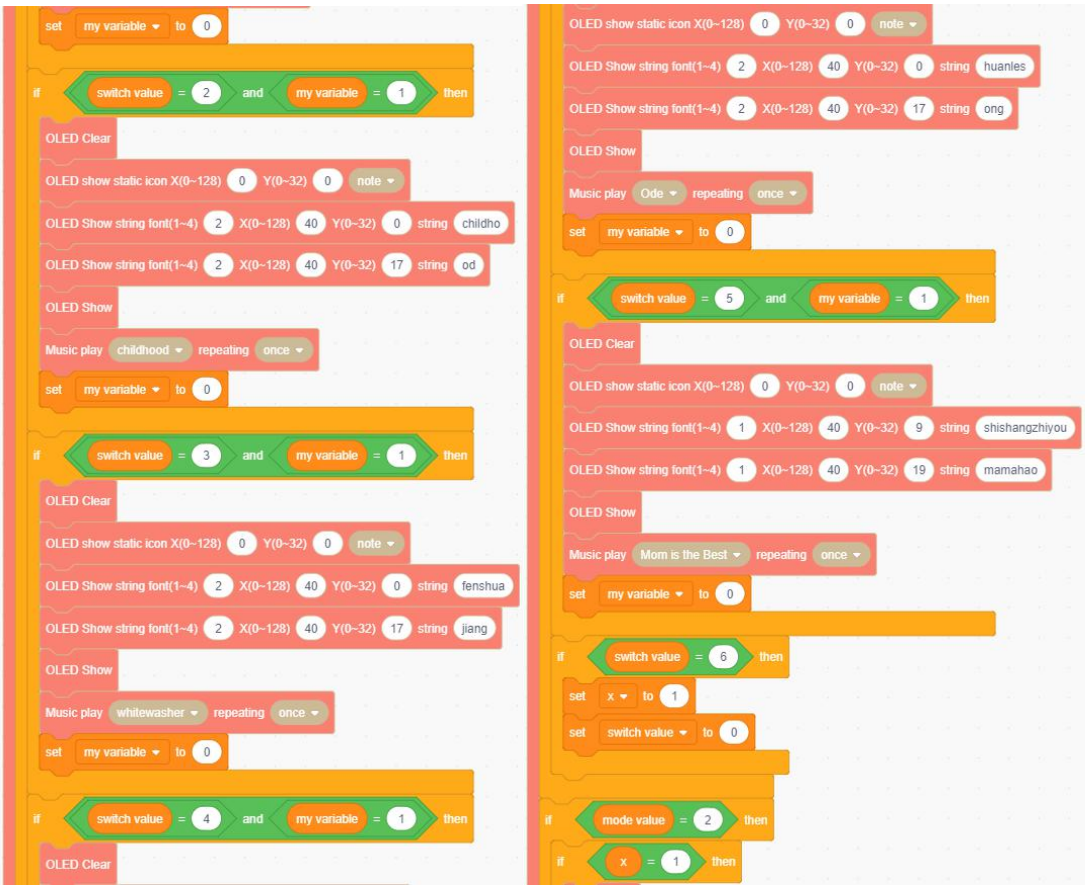
if switch value = 5 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string angle:
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string 180
OLED Show
Servo Port 5 angle(0-180) 180
set my variable to 0
if switch value = 6 then
set x to 1
set switch value to 0

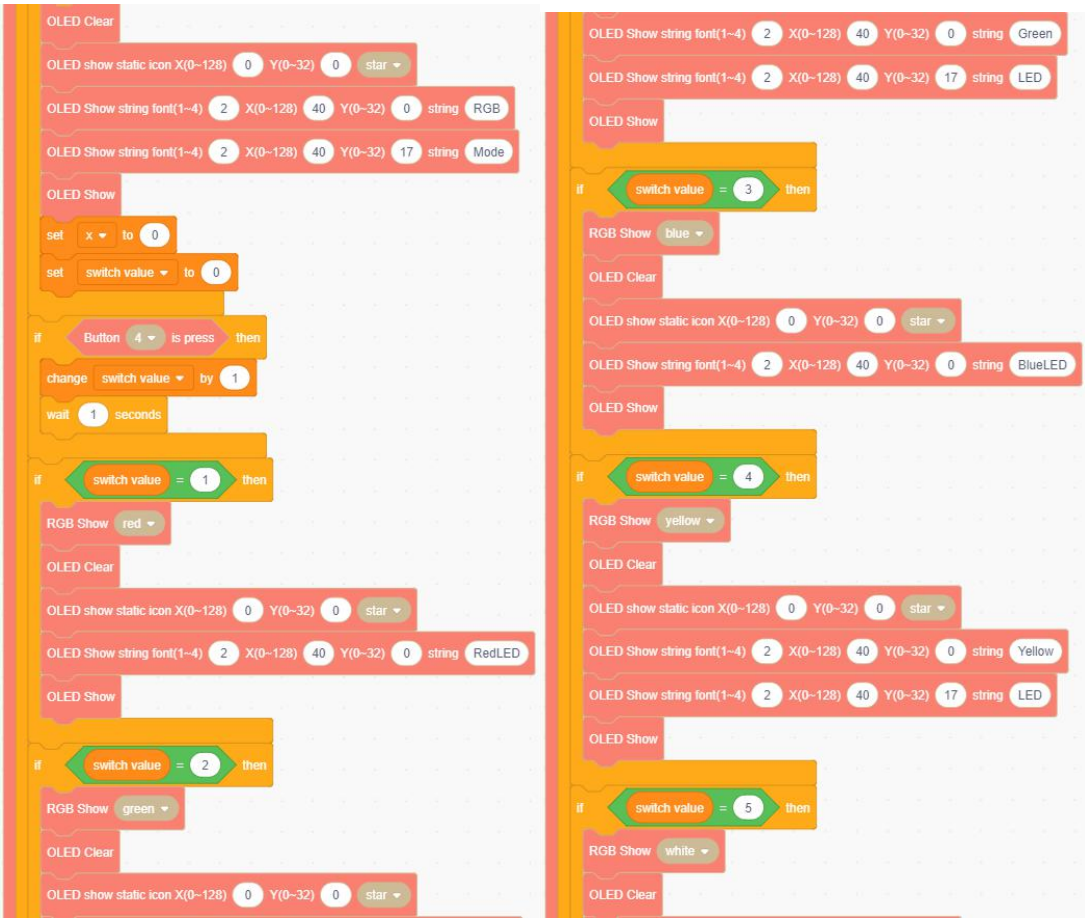
7.Initialize various variables.

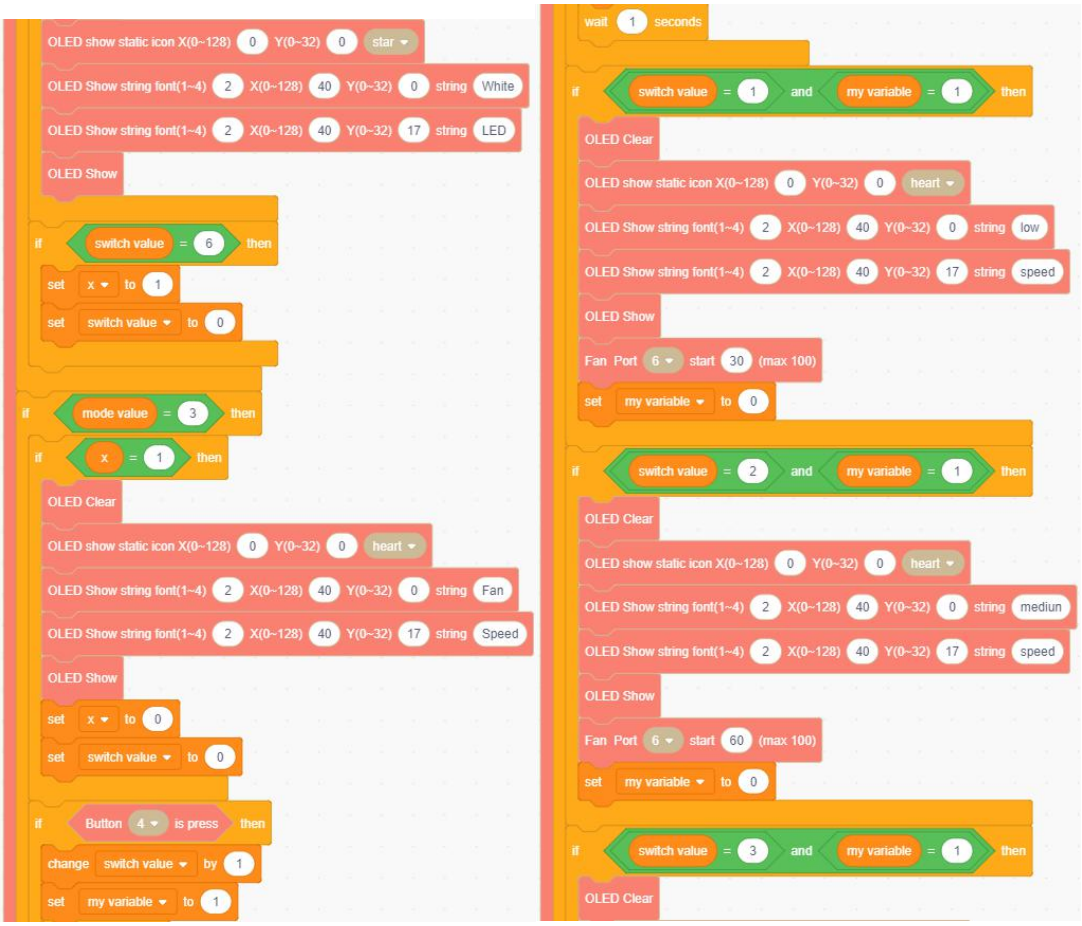


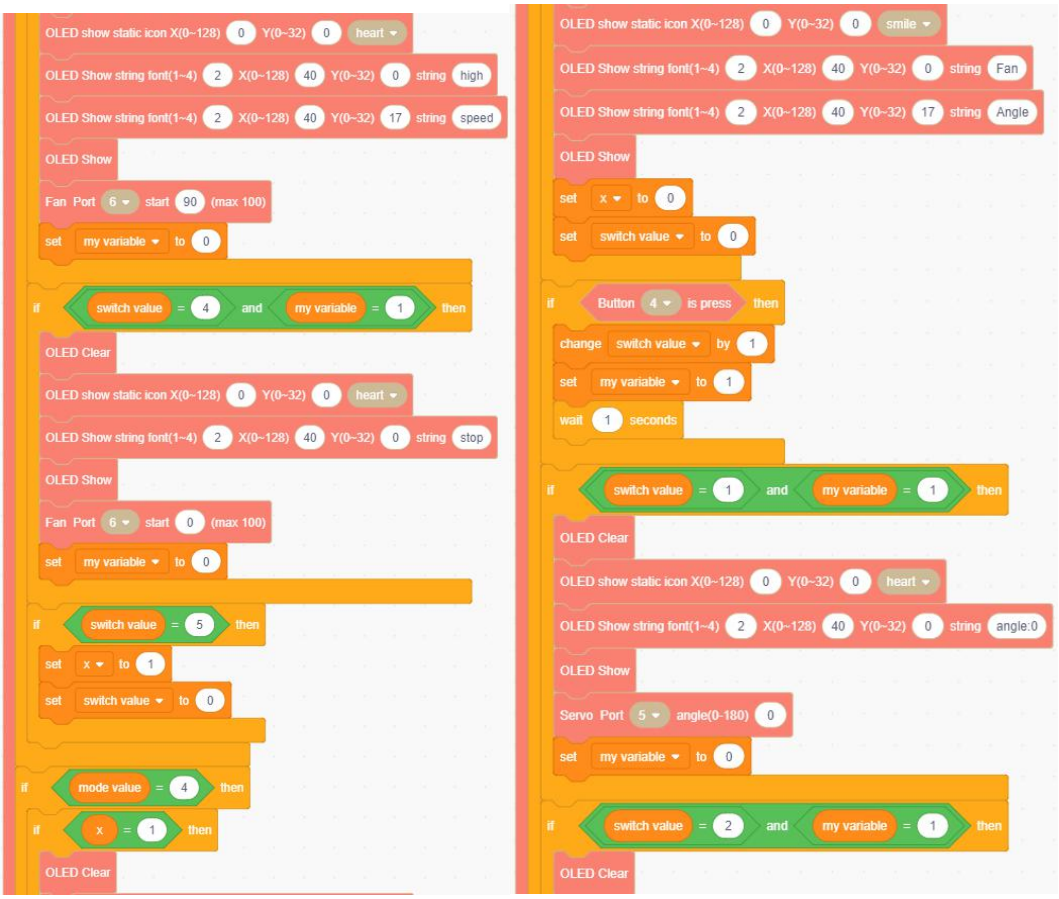
8.Put the initialization part of step 7 into the setup, and combine the blocks of step 2, 3, 4, 5, and 6 (rocker switching mode, mode 1, mode 2, mode 3, mode 4) and put them into the loop block. Because the final program is too long, we only provide program step-by-step. The complete program can refer to the **Smart fan speaker.sb3** file provided by us.

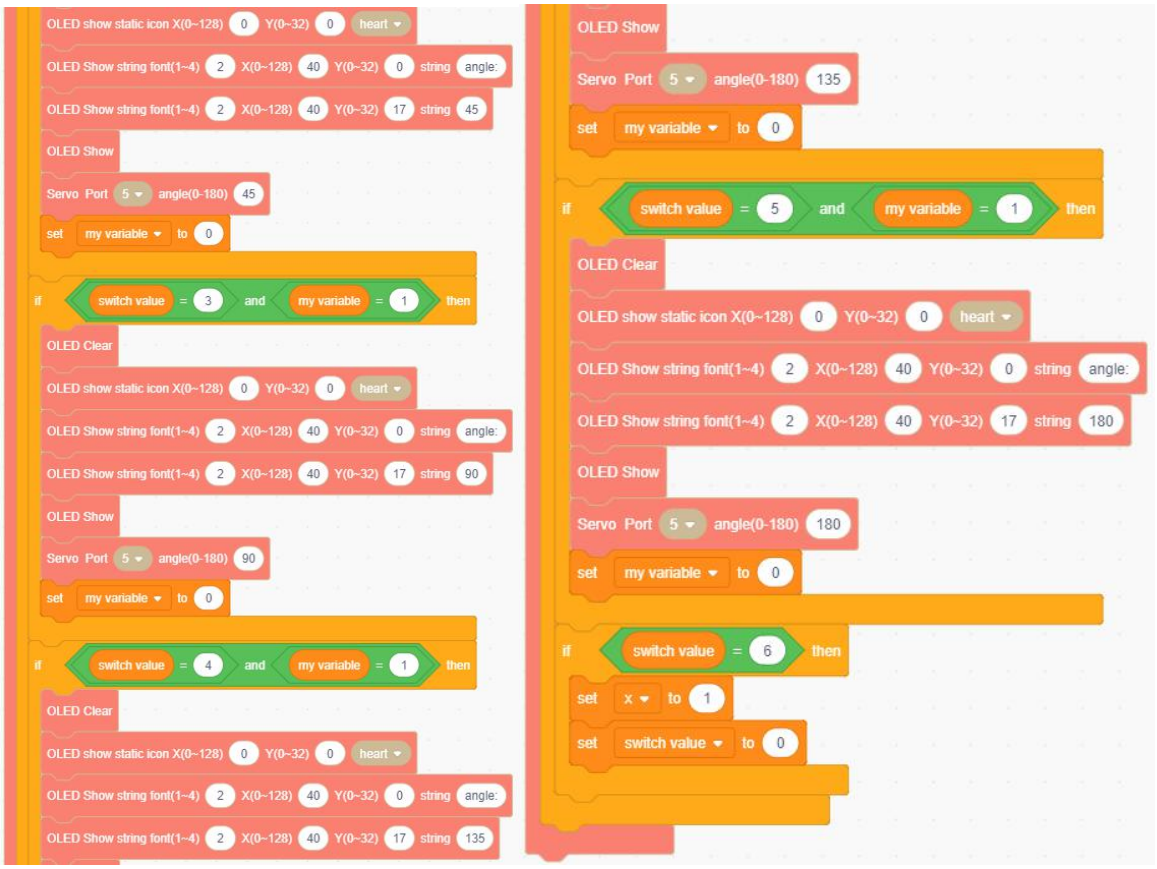



set my variable to 0
if switch value = 2 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string childho
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string od
OLED Show
Music play childhood repeating once
set my variable to 0
if switch value = 3 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string fenshua
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string jiang
OLED Show
Music play whitewasher repeating once
set my variable to 0
if switch value = 4 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string huanles
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string ong
OLED Show
Music play Ode repeating once
set my variable to 0
if switch value = 5 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 note
OLED Show string font(1~4) 1 X(0~128) 40 Y(0~32) 9 string shishangzhiyou
OLED Show string font(1~4) 1 X(0~128) 40 Y(0~32) 19 string mamahao
OLED Show
Music play Mom is the Best repeating once
set my variable to 0
if switch value = 6 then
set x to 1
set switch value to 0
if mode value = 2 then
if x = 1 then


OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 star
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string RGB
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string Mode
OLED Show
set x to 0
set switch value to 0
if Button 4 is press then
change switch value by 1
wait 1 seconds
if switch value = 1 then
RGB Show red
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 star
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string RedLED
OLED Show
if switch value = 2 then
RGB Show green
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 star
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string Green
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string LED
OLED Show
if switch value = 3 then
RGB Show blue
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 star
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string BlueLED
OLED Show
if switch value = 4 then
RGB Show yellow
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 star
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string Yellow
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string LED
OLED Show
if switch value = 5 then
RGB Show white
OLED Clear


OLED show static icon X(0~128) 0 Y(0~32) 0 star
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string White
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string LED
OLED Show
if switch value = 6 then
set x to 1
set switch value to 0
if mode value = 3 then
if x = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string Fan
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string Speed
OLED Show
set x to 0
set switch value to 0
if Button 4 is press then
change switch value by 1
set my variable to 1
wait 1 seconds
if switch value = 1 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string low
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string speed
OLED Show
Fan Port 6 start 30 (max 100)
set my variable to 0
if switch value = 2 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string mediun
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string speed
OLED Show
Fan Port 6 start 60 (max 100)
set my variable to 0
if switch value = 3 and my variable = 1 then
OLED Clear


OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string high
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string speed
OLED Show
Fan Port 6 start 90 (max 100)
set my variable to 0
if switch value = 4 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string stop
OLED Show
Fan Port 6 start 0 (max 100)
set my variable to 0
if switch value = 5 then
set x to 1
set switch value to 0
if mode value = 4 then
if x = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 smile
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string Fan
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 17 string Angle
OLED Show
set x to 0
set switch value to 0
if Button 4 is press then
change switch value by 1
set my variable to 1
wait 1 seconds
if switch value = 1 and my variable = 1 then
OLED Clear
OLED show static icon X(0~128) 0 Y(0~32) 0 heart
OLED Show string font(1~4) 2 X(0~128) 40 Y(0~32) 0 string angle:0
OLED Show
Servo Port 5 angle(0-180) 0
set my variable to 0
if switch value = 2 and my variable = 1 then
OLED Clear



9.Compiling and uploading programs.

Experimental phenomena: Move the X direction of the rocker to the left to return to the previous interface. Move the X direction of the rocker to the right to return to the next interface. There are four interfaces in total. Music interface, Color light interface, angle rotation interface, wind speed interface.

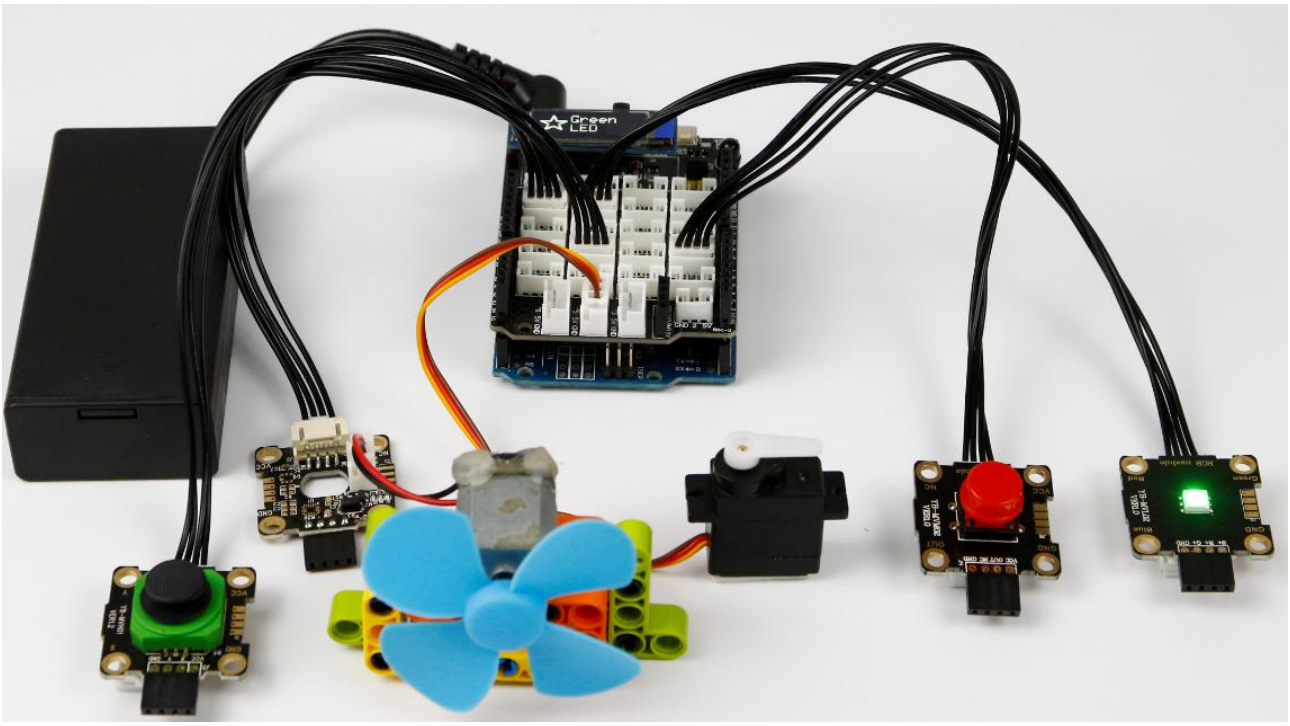
In the music interface, the song is switched by pressing the button.

In the Color light interface, the color of the light is switched by pressing the button.

In the angle rotation interface, the rotation angle of the light is switched by pressing the button.

In the wind speed interface, the wind speed is switched by pressing the button.

Note: If a USB data cable is used to power the UNO board and the restart situation is unstable, it recommended use battery box for power.



Expand after class

1. Using four buttons to realize the switching interface, and use the rocker module to switch the song, color of RGB light, wind speed, and rotation angle.
2. Using the sound sensor to switch songs, color of RGB light, wind speed, and rotation angle.