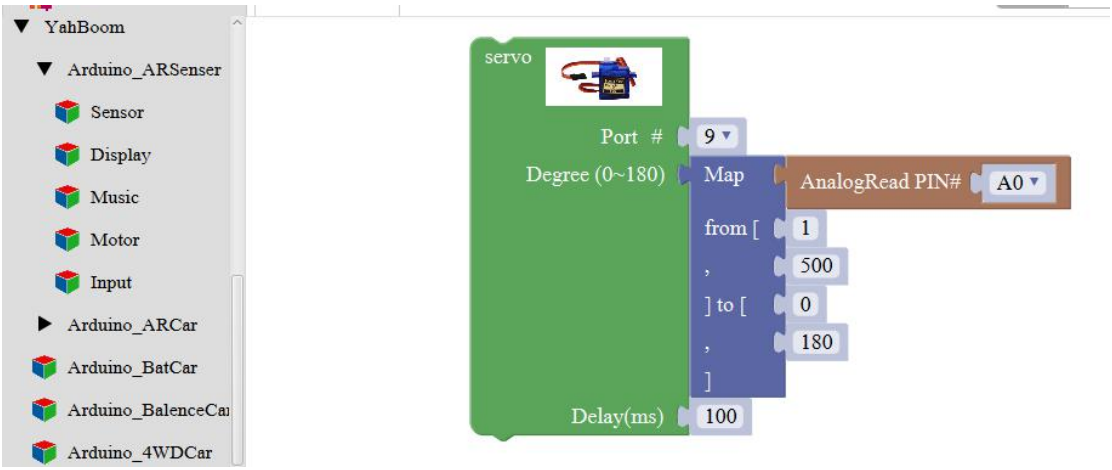
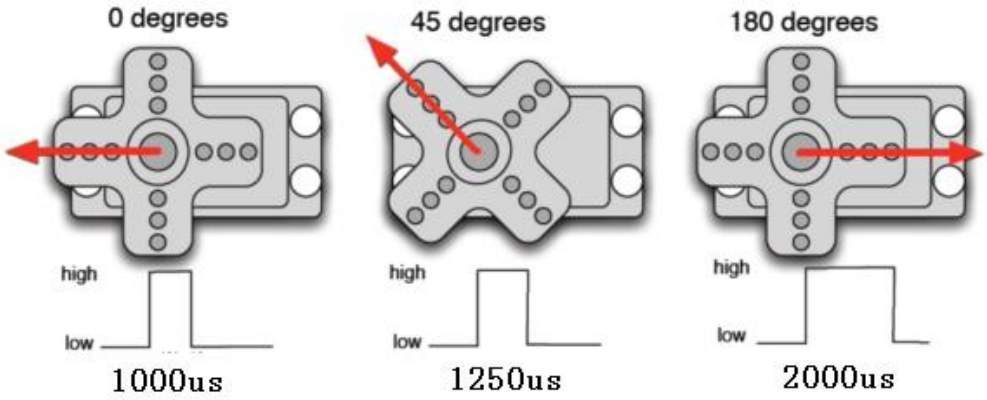
Course16--servo control

You need to follow the steps below to build blocks.



About the servo:

The actual object is shown below. Servo rotation angle is by adjusting the duty ratios of PWM (pulse width modulation) signal. The standard PWM (pulse width modulation) signal has a fixed period of 20ms (50Hz). Theoretically, pulse width distribution should be between 1 ms to 2 ms, but in fact between pulse width can be 0.5 ms and 2.5 ms. Pulse width and the servo rotation angle 0°～180° corresponds, as shown in the figure below.



Servo have many specifications, but all of the servo possess external three lines, with brown, red, orange, three kinds of color to distinguish. Due to brand is different, color is different, brown for the grounding line, red for positive line, orange for signal lines.

Note: Due to brand is different, for the same signal, different brands of servo rotation angle will be different.

List of components required for the experiment:

Arduino UNO board *1

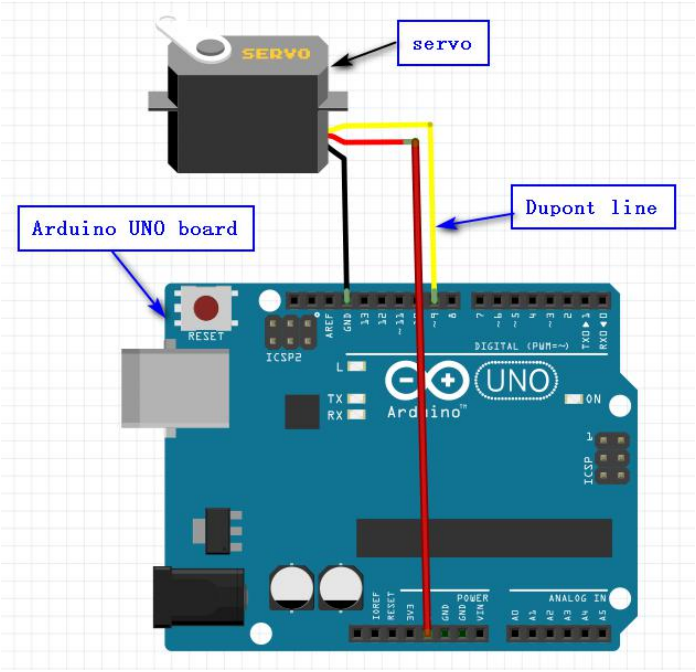
USB cable *1

Servo *1

Dupont line *1 bunch

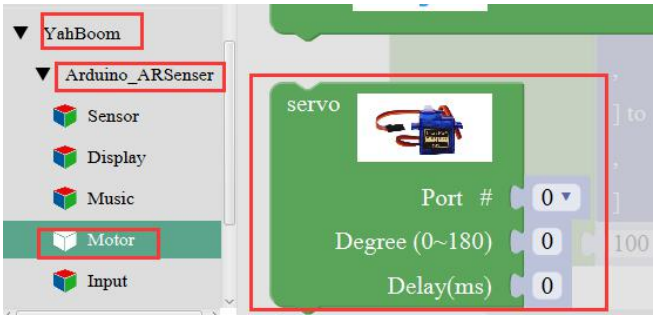
Actual object connection diagram：

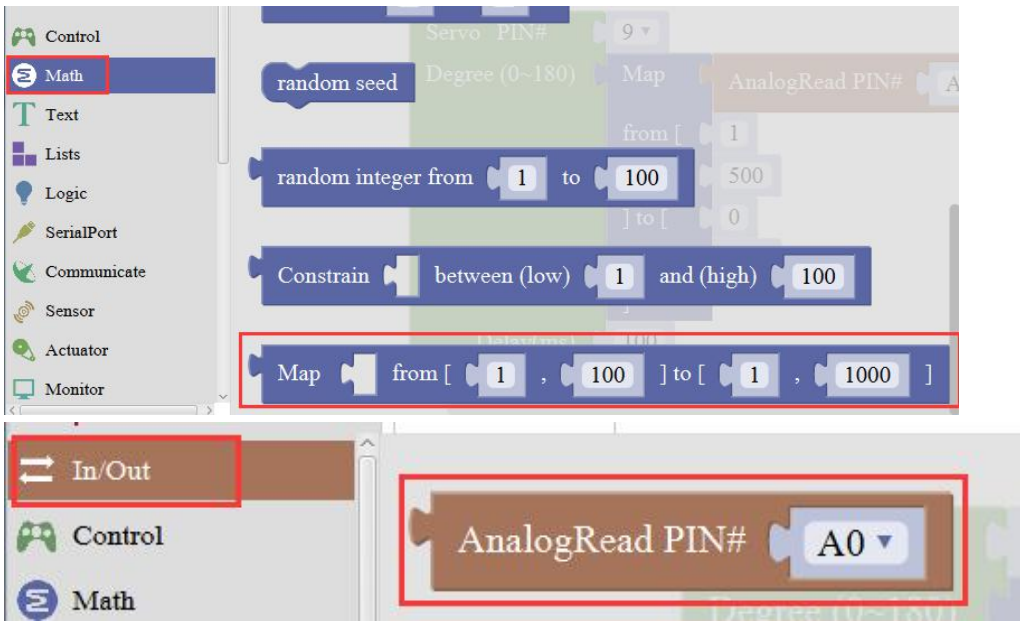
We need to connect the circuit as shown in the figure below.



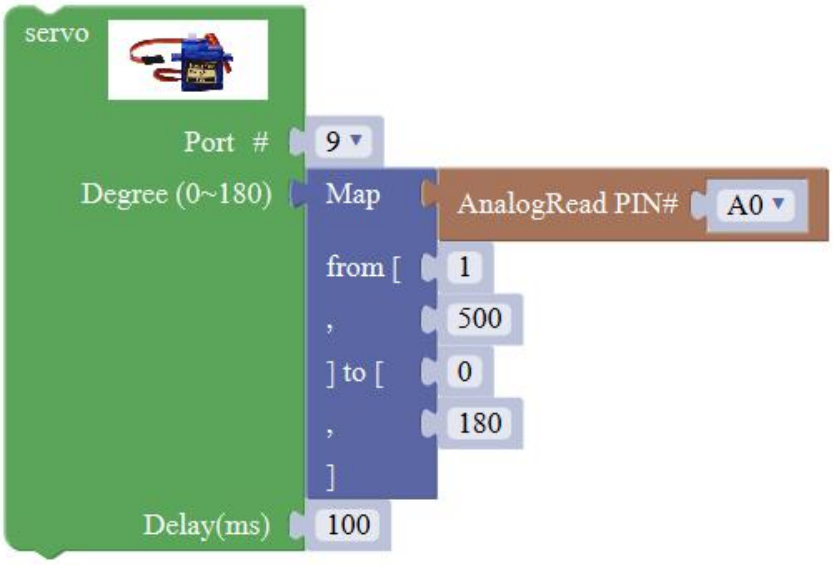
Steps of experiment:

1.You need to choose the building blocks which you need for this experiment, as shown in the figure below.



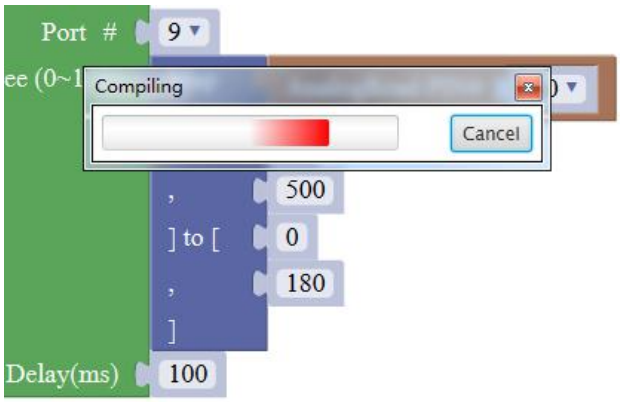


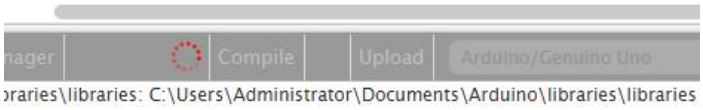
2.You need to combine the selected blocks, as shown in the figure below.



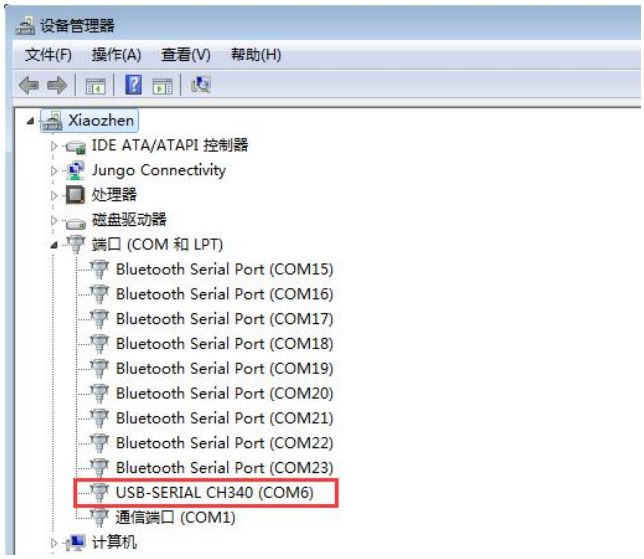
3.You need to you need to click "**Compile**". and wait for the completion of the compiler, the following box will prompt the compiler successfully, if prompt the compile failure is the problem of building block splicing.

4. After the compilation is completed, the word "**Compile success!**" will appear in the lower left corner, indicating that you have successfully compiled the program.



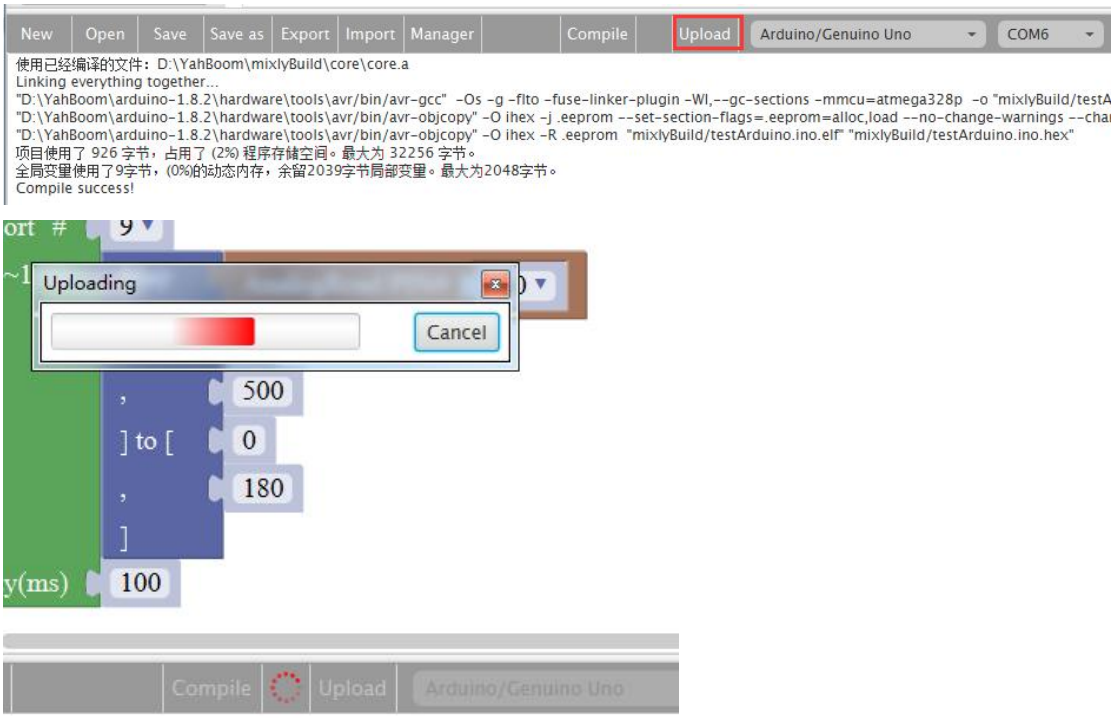


5. In the menu bar of Mixly, we need to select the port that the serial number displayed by the device manager (for exmaple:COM6) and **Arduino/Genuino Uno.** As shown in the figure below.

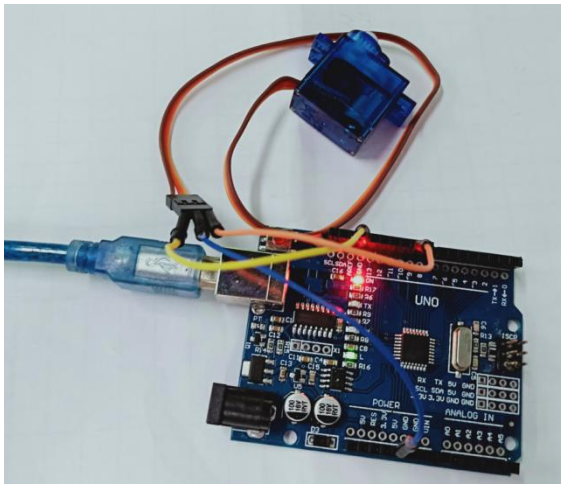


6. After the selection is completed, you need to click "**Upload**" to upload the code to

the Arduino UNO board. When the word "**Upload success**" appears in the lower left corner, the code has been successfully uploaded to the Arduino UNO board, as shown in the figure below.



7.After the code is uploaded, we can see that the servo is turned to the angle set in the code.


UNO
POWER
ANALOG IN