

## SMART DRIPPING SYSTEM ARDUINO CODE DESCRIPTION

INPUT PINS : 1) A0: Moisture sensor reading pin (Analog pin)  
2) A1: Water level reading pin (Analog pin)

OUTPUT PINS : 1) 1 : Motor output pin (Digital pin)

VARIABLES : 1) W1 - For getting the output from the water level controller  
2) val- For getting output from the moisture control sensor

In the smart dripping first the water\_level function is processed. It takes the output from its water level controller. The output is taken in variable W1. Where  $0 \leq W1 \leq 1024$ . if  $W1 \geq 900$  then the reservoir don't have enough water then no function is called for watering and no watering takes place. if  $600 \leq W1 < 900$  means water is available so we call the moisture\_control function with an argument 0 for checking the soil moisture if watering is needed or not. Else if  $W1 < 600$  means sufficient water is available then moisture control function is called with a argument 1.

The moisture\_control function is called with argument either 0 or 1 from water level function. Then it checks the moisture level of the soil and command the motor if watering of the soil is required. It store the output from the moisture sensor in variable val. where  $0 \leq val \leq 1024$ . If  $val > 800$  means the soil is dry so it call the function motorOn by passing the argument the moisture\_control function receive from water\_level function. If  $val < 800$  then the motor given the command the to remain off.

If the motorOn function is called with an argument 1 it checks the value of val. If  $val > 850$  means the soil is dry and also we have enough water in water reservoir (since the argument is 1) the dripping pipe get filled for 5 minutes. If  $val < 850$  but  $val > 820$  then water dripping pipe get filled for 3 minutes. Else if  $val < 820$  but  $val > 800$  then pipe get filled for 2 minutes.

If motorOn function is called with an argument 0 it agains checks for the value of val. If  $val > 850$  means soil is dry but we dont have enough water for dripping so motor remains open for 3 minutes only. If  $val < 850$  but  $val > 820$  motor remains open for 2 minutes and if  $val < 820$  then it remains open for 1 minute and fill the pipe.

After the motor is on the system is delayed for 10 minutes. In 10 minute the water from the dripping pipe get dripped making the soil wet. Then again the same code repeates as it is under infinite loop.