IOT PROJECT :SMART WATER FOUNTAIN

IBM-NAAN MUDHALVANCOURSE(GROUP-4)

INTERNET OF THINGS

PHASE-3

Done by:

M. Madhubala   (au820421106027)

V. Kalpana Devi (au820421106023)

M. Baranika   (au820421106007)

K. Ashmathi   (au820421106005)

Material required

1. Arduino Nano
2. Sound sensor Module
3. 12V Relay Module
4. DC Pump
5. LEDs
6. Connecting wires
7. Breadboard

Musical Water Fountain:

The musical fountain circuit diagram, the sound sensor is powered with 3.3V supply of Arduino Nano and the output pin of the sound sensor module is connected to the analog input pin (A6) of Nano. You can use any of the analog pin, but make sure to change that in the program. The relay module and DC pump is powered by an external 12VDC power supply as shown in the figure. The input signal of relay module is connected to digital output pin D10 of Nano. For lighting effect I chose two different colors of LED and connected them to two digital output pins (D12, D11) of Nano.

The Pump is connected in such a way that when a HIGH pulse is given to the input of Relay module, the COM contact of the relay is get connected to the NO contact and the current gets a closed circuit path to flow across the pump to activate the water flow. Otherwise the pump will remain OFF. The HIGH/LOW pulses are generated from Arduino Nano depending on the sound input.

Musical Water Fountain Circuit Diagram:
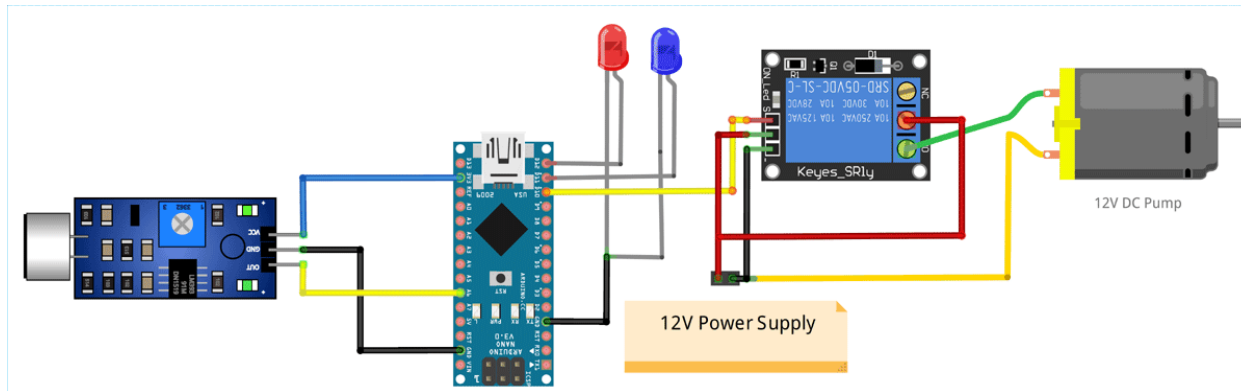
Programming Arduino Nano for Dancing Fountain:

The complete program of this Arduino water fountain project is given at the bottom of the page. But here I am just explaining that by parts for better understanding.

The first part of the program is to declare the necessary variables for assigning pin numbers that we are going to use in the next blocks of program. Then define a constant REF with a value which is the reference value of for the sound sensor module. The assigned value 700 is the bytes equivalent value of the output electrical signal of the sound sensor.

Python code:

```
int sensor=A6;

int redled=12;

int green led=11;

int pump=10;

£define REF 700

Void setup()

{

pinMode{sensor, INPUT};

pinMode{redled , OUTPUT};
```

```
pinMode{greenled , OUTPUT};

pinMode{pump, OUTPUT};

}

Void  loop()

{

Int sensor_value= analog read(sensor);

If(sensor_value>REF)

{

digital Write(green led, HIGH);

digital Write(redled,  HIGH);

digital Write(pump, HIGH);

delay(70);

}

else

{

digital Write(green led, LOW);

digital Write(redled, LOW);

digital Write(pump, LOW);

delay(70);

}

}
```