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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

BATCH – 01

STEM PROJECT REVIEW

AUTOMATED FAN WITH SPEED CONTROL USING TEMPERATURE SENSOR

GUIDED BY

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INTRODUCTION

- This project is about an automated fan , when the temperature rises above the fixed temperature , the sensor detects it and the fan will starts to run.
- The sensor used for this project is LM35 sensor which control the speed of the fan based on the current surrounding temperature.
- By this technology we can conserve the electrical energy in the modern world.

LITERATURE REVIEW

S.NO	TITLE	JOURNAL	YEAR	TECHNOLOGIES	INFERENCE
1	Automatic Fan Speed Control System Using Microcontroller	ICEECE	2014	Sensor network	How to control the Arduino
2	Automatic fan speed control system using Arduino	IJNRD	2017	Sensor network	how to control fan speed
3	Speed control of fan based on room temperature by using programmable logic controller	IJARCET	2015	Programming	How to code In the Arduino IDE

PROBLEM IDENTIFICATION

- Most human feels the badly designed about changing the fan rate level physically when the room temperature changes.

- Due to the careless of human being , electricity consumed by electronics become as large in world wide.

- Programming errors : If there is an error in program , the output is not effected

  100% efficiency is not achieved

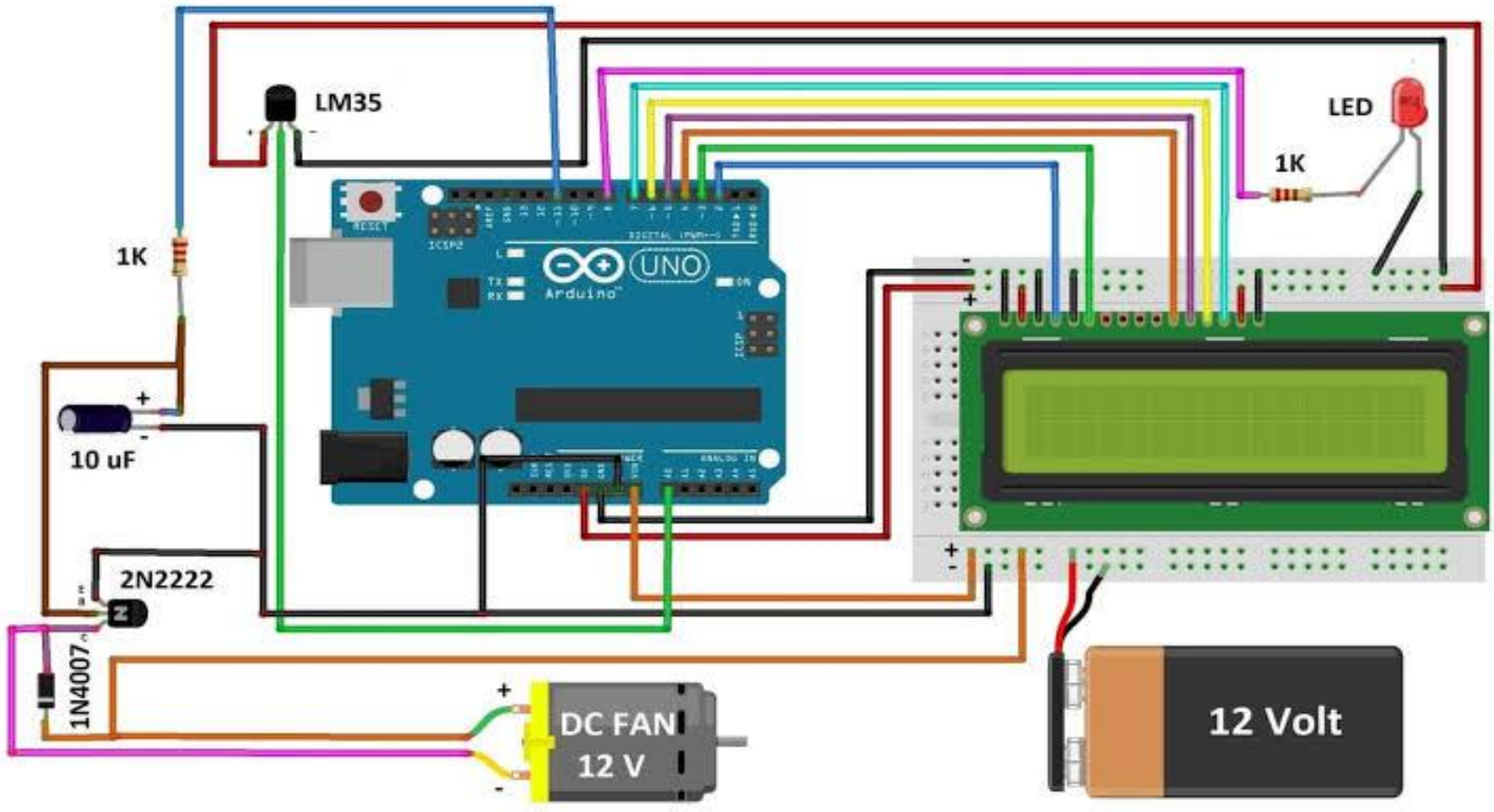
OBJECTIVES

- To develop an low cost, user friendly automated temperature controlled fan regulator which reduces power consumption and also assist people who are unable to control the speed of fan from their locations.

- The fan operates only when necessary, saving energy by avoiding continuous operation

- Overall, the objective is to create a smart and efficient system that enhances comfort, saves energy, and improves air quality in the monitored space.

CIRCUIT DIAGRAM

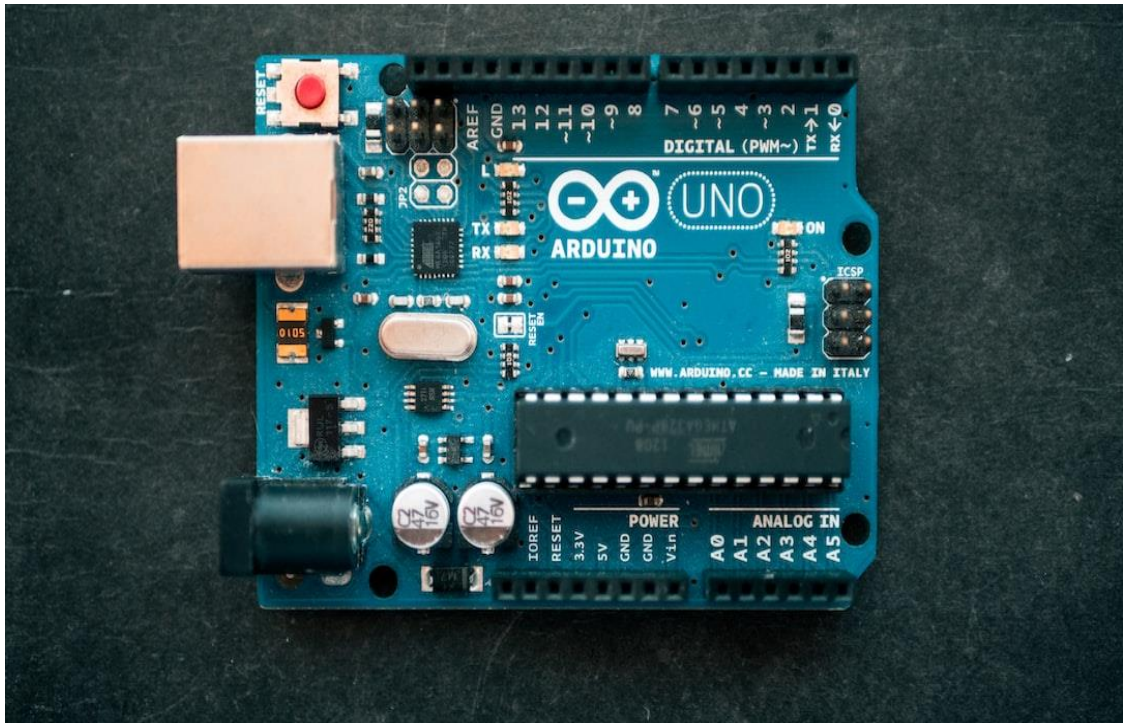


COMPONENTS

- ARDUINO UNO
- LM35 SENSOR
- 12V DC FAN
- LCD DISPLAY
- 12 BATTERY
- IN4007 DIODE
- 2N2222 TRANSISTOR
- LED

ARDUINO UNO

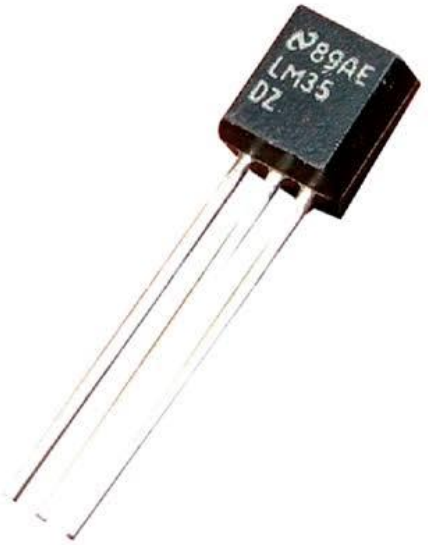
- Arduino UNO is a microcontroller .
- It is an electronics platform that enables users for create interactive projects by combining hardware and software components .
- Arduino boards are designed with the help of microcontroller for controlling devices and sensors.



LM35 SENSOR

- Temperature sensor is a device that measures that temperature in that surrounding area and convert that into electrical signal for the next process.

- It can be based on various principles like thermo couples, thermistors, integrated circuit sensors.

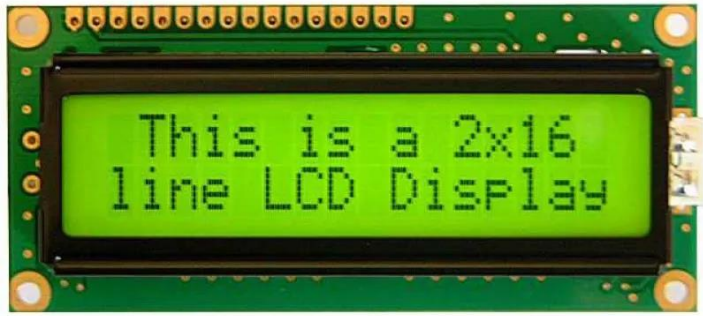


12 DC FAN

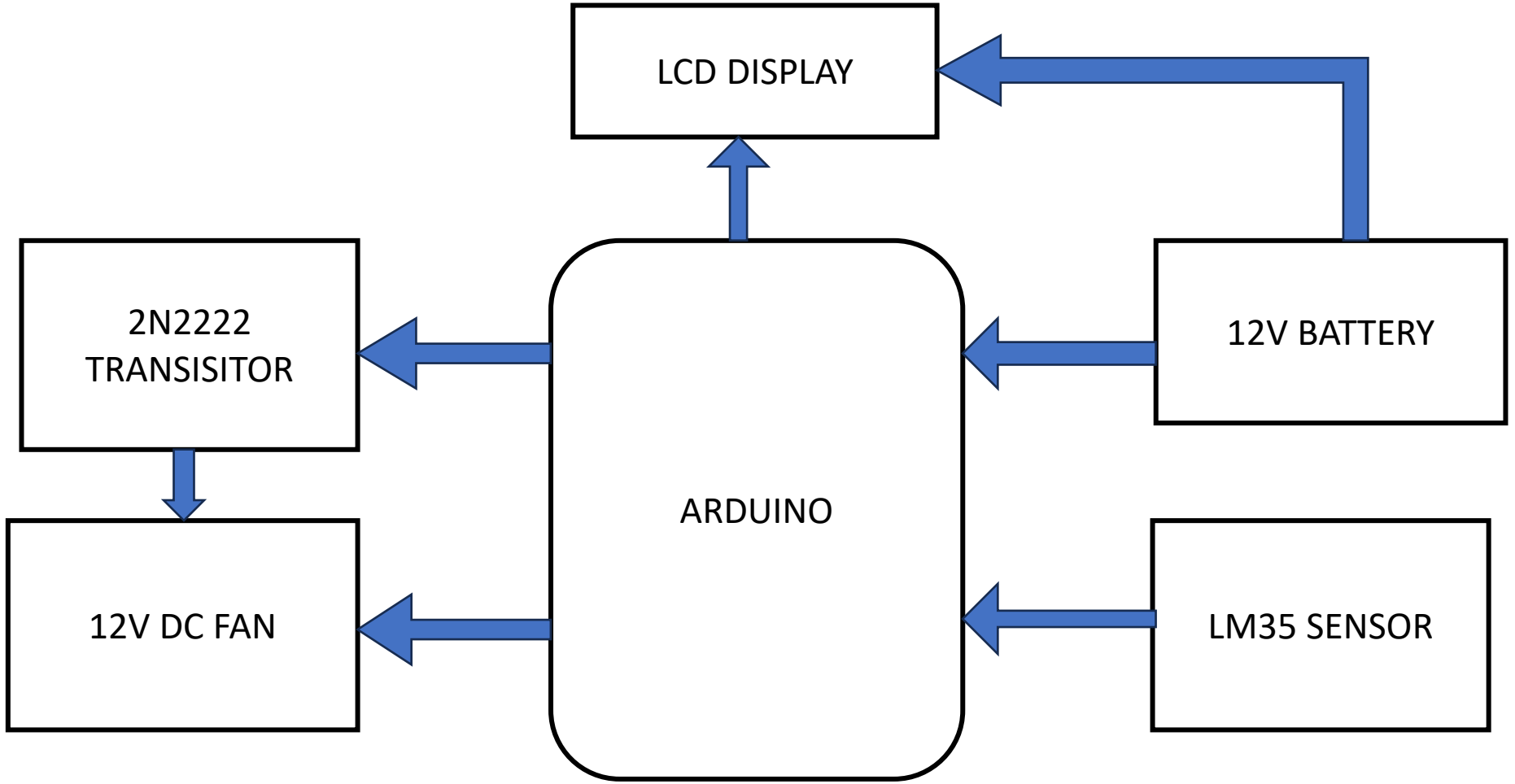
- The principle behind a 12V DC fan is based on the conversion of electrical energy into mechanical energy using direct current (DC).
- The motor contains coils of wire and magnets, and when the current flows through the coils, it generates a magnetic field.

LCD DISPLAY

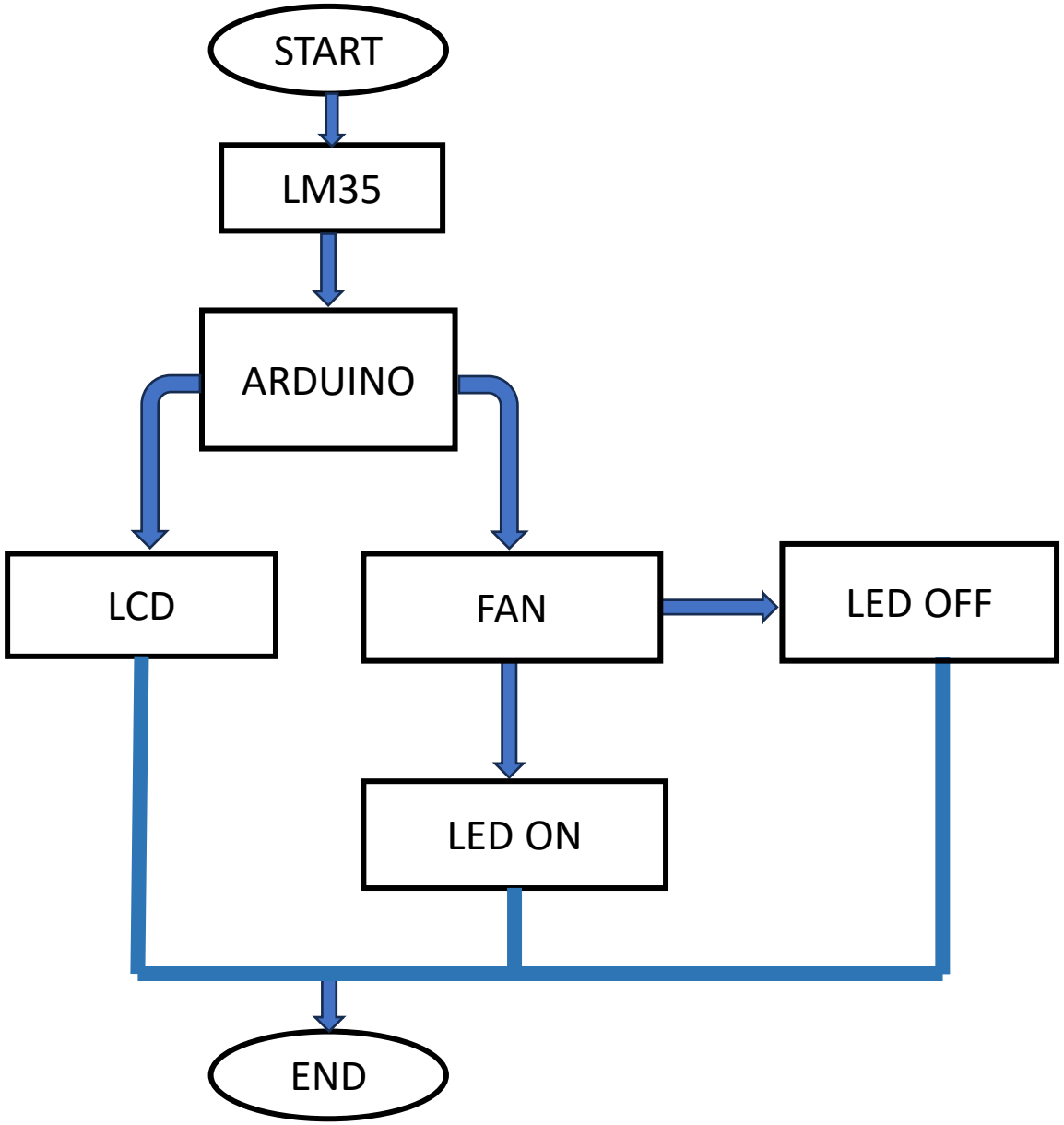
- Standard 16x2 Alphanumeric LCD Module with green backlight.
- These modules are based on standard HD44780 controller.
- Easy to connect with microcontrollers.
- Supports 4 or 8 bit data transfer. Can display 2 lines of 16 characters.



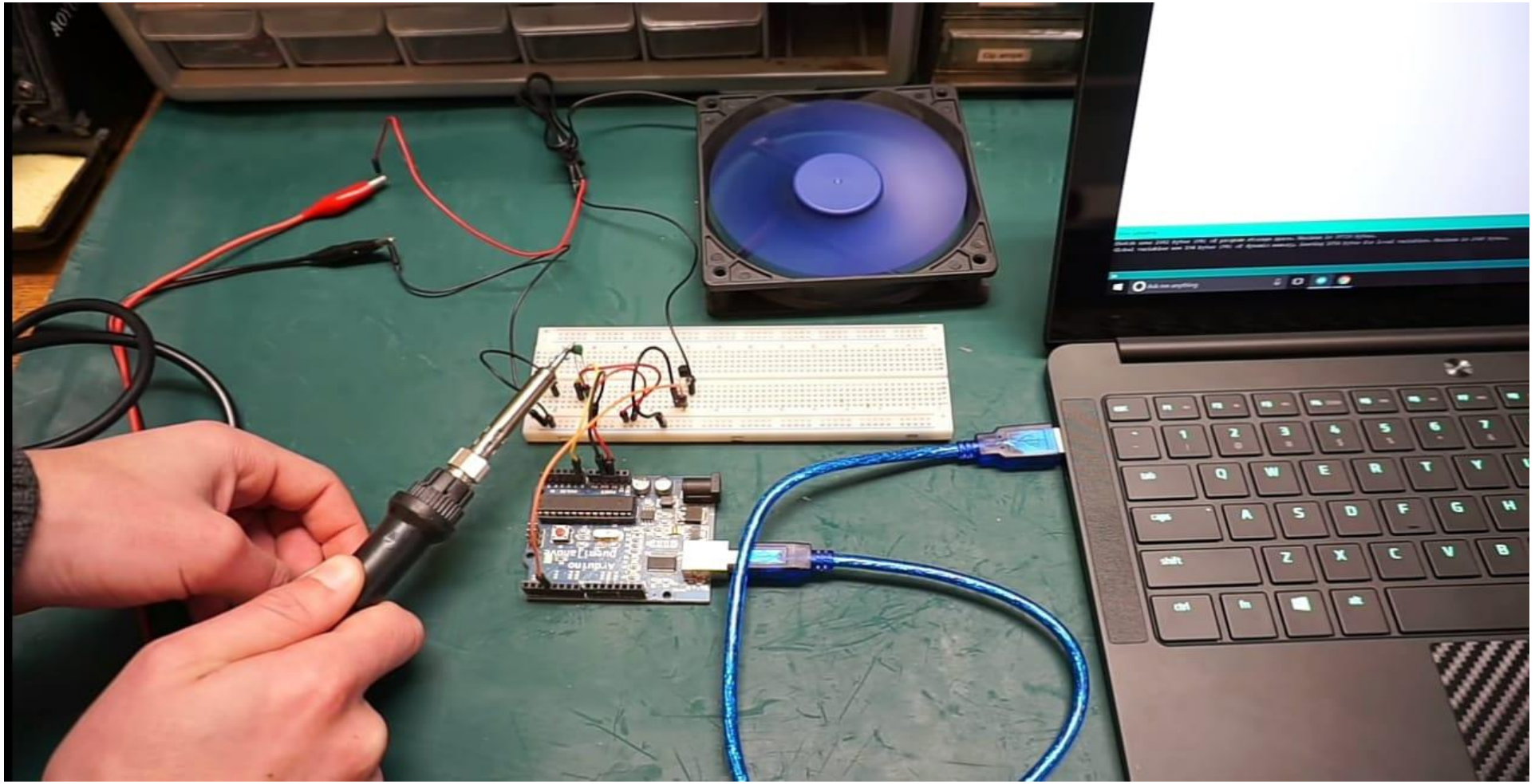
BLOCK DIAGRAM



FLOWCHART



RESULT



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ANY QUERIES ?

THANK YOU