

# GLOVE FOR DEAF GROUP 41

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**Amit Graduation Project**

**Made by**

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# AGENDA:



Problem Description



Sequence



Flowchart



Proteus Simulation

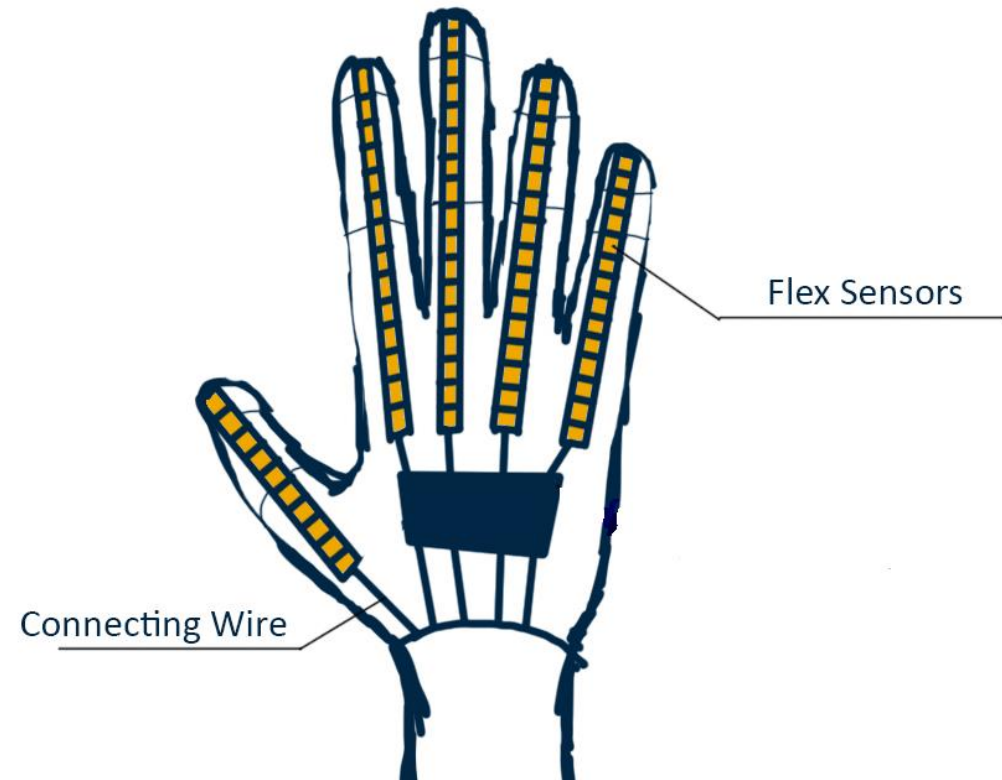


Coding

# PROBLEM DESCRIPTION

As sign language is used by deaf people, the goal of this project is to create an embedded system that can translate the sign language into words using an LCD.

In each finger ,there is a flex sensor which is used to get readings represent finger movements then convert to certain logic to display the corresponding word to those movements in the LCD.



# SEQUENCE



**Getting sensors readings for conversion**



**Mapping values**

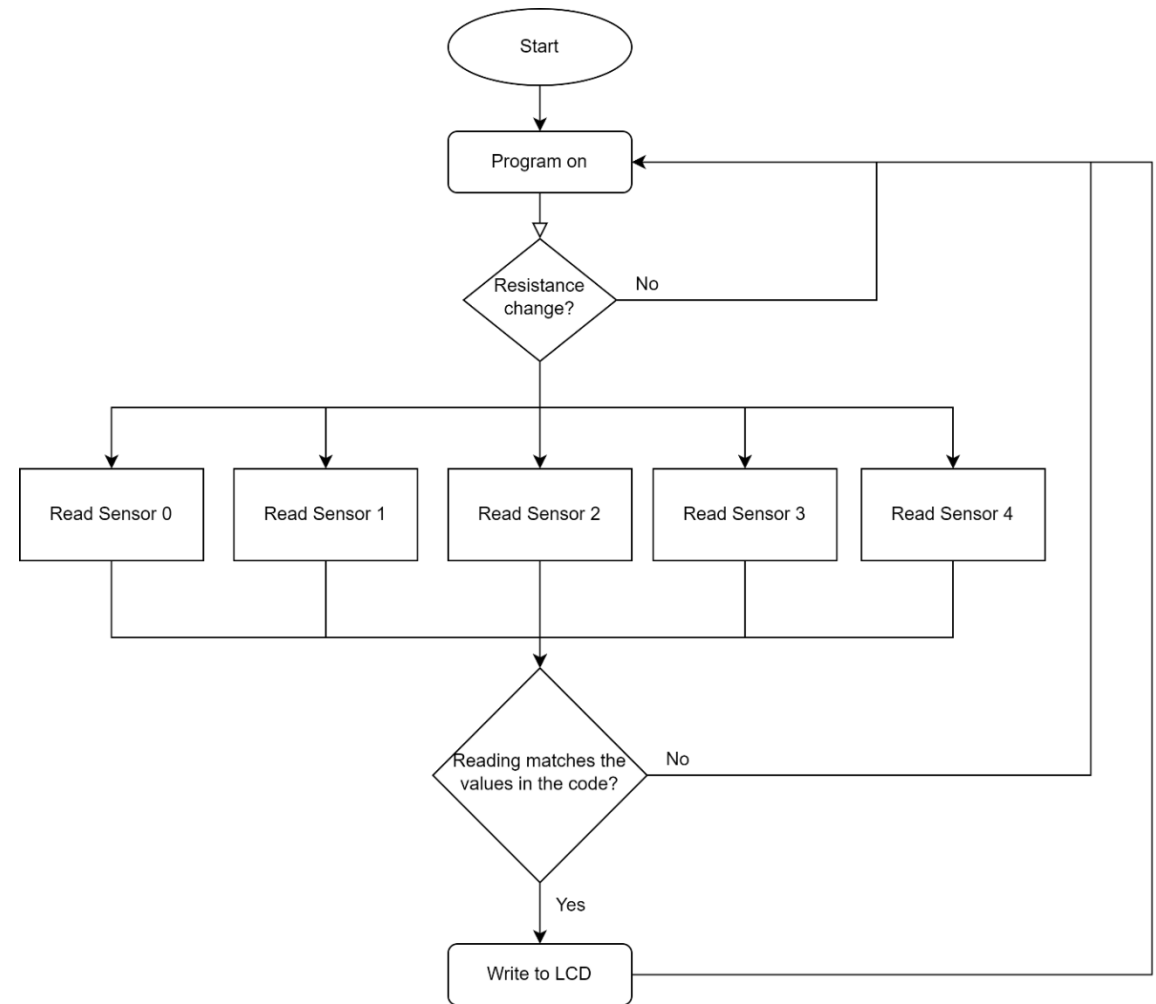


**Decision making**



**LCD display**

# FLOWCHART



# HOW TO GET SENSORS' READINGS?

Switching ADC channel

```
for (int ChannelNumber = 0; ChannelNumber < 5; ChannelNumber++) {  
    ADC_Channel_Select(ChannelNumber);  
    ADC_StartConv();  
    Results[ChannelNumber] = ADC_read()*.00488;  
}
```

# MAPPING VALUES

## **Flat**

Represented as 4v which means setting potentiometer range

(%100----%80)

## **90 ° Bend**

Represented as 2v which means setting potentiometer range

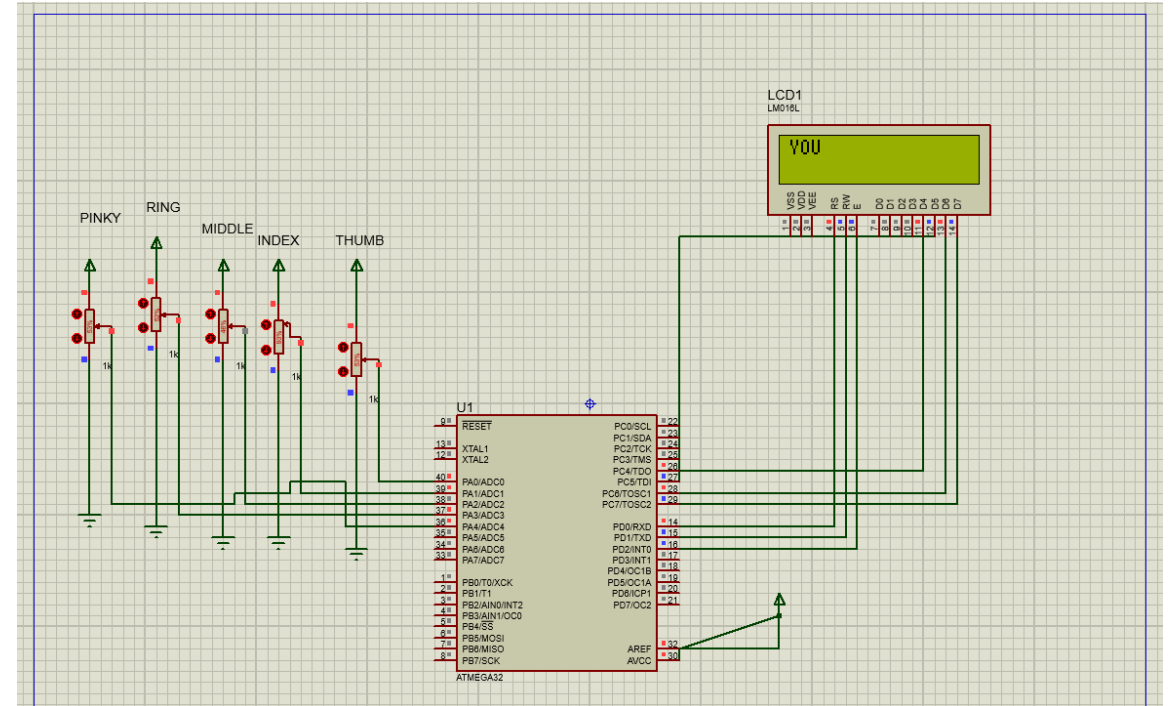
(%60----%40)

## **45 ° Bend**

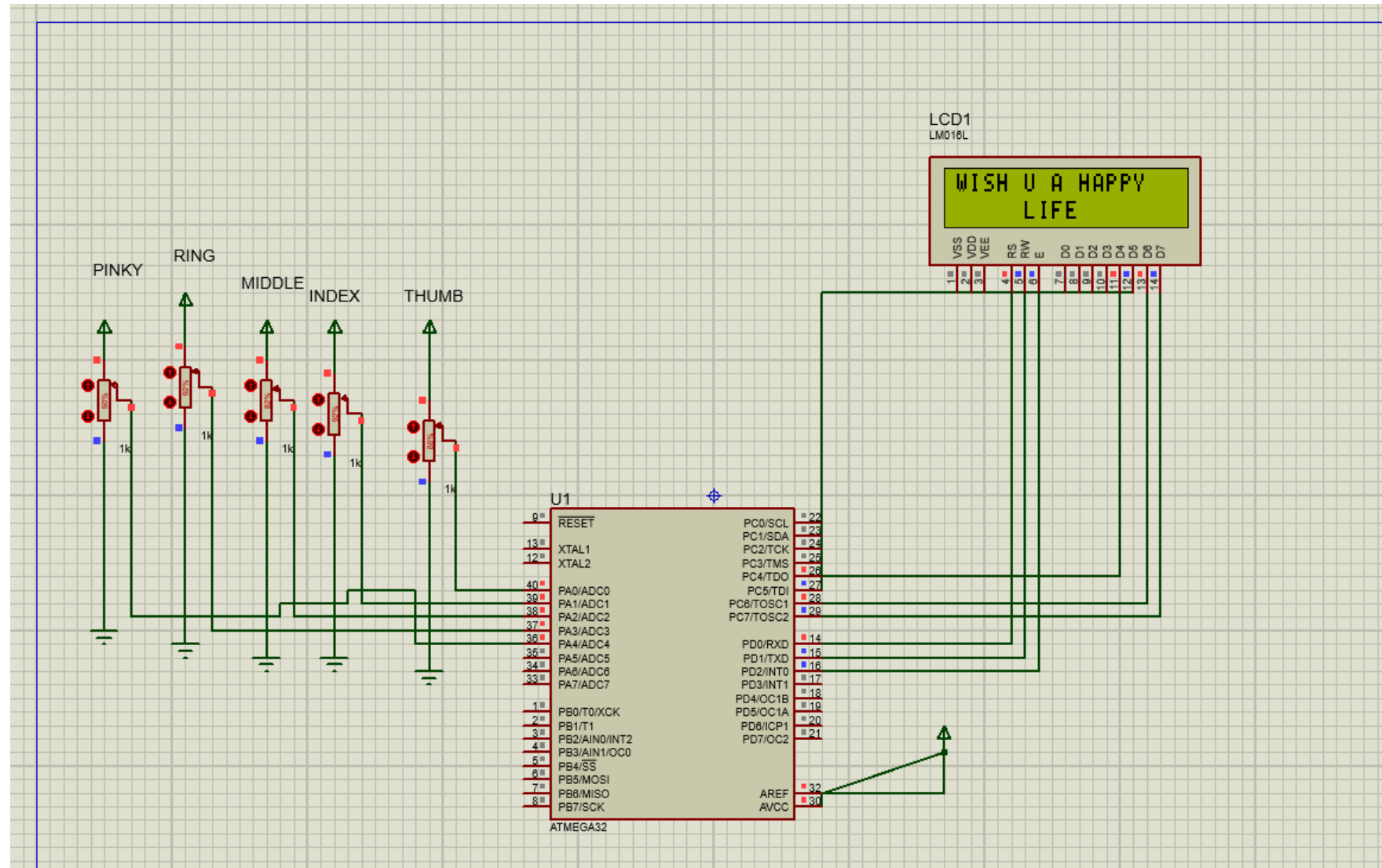
Represented as 3v which means setting potentiometer range

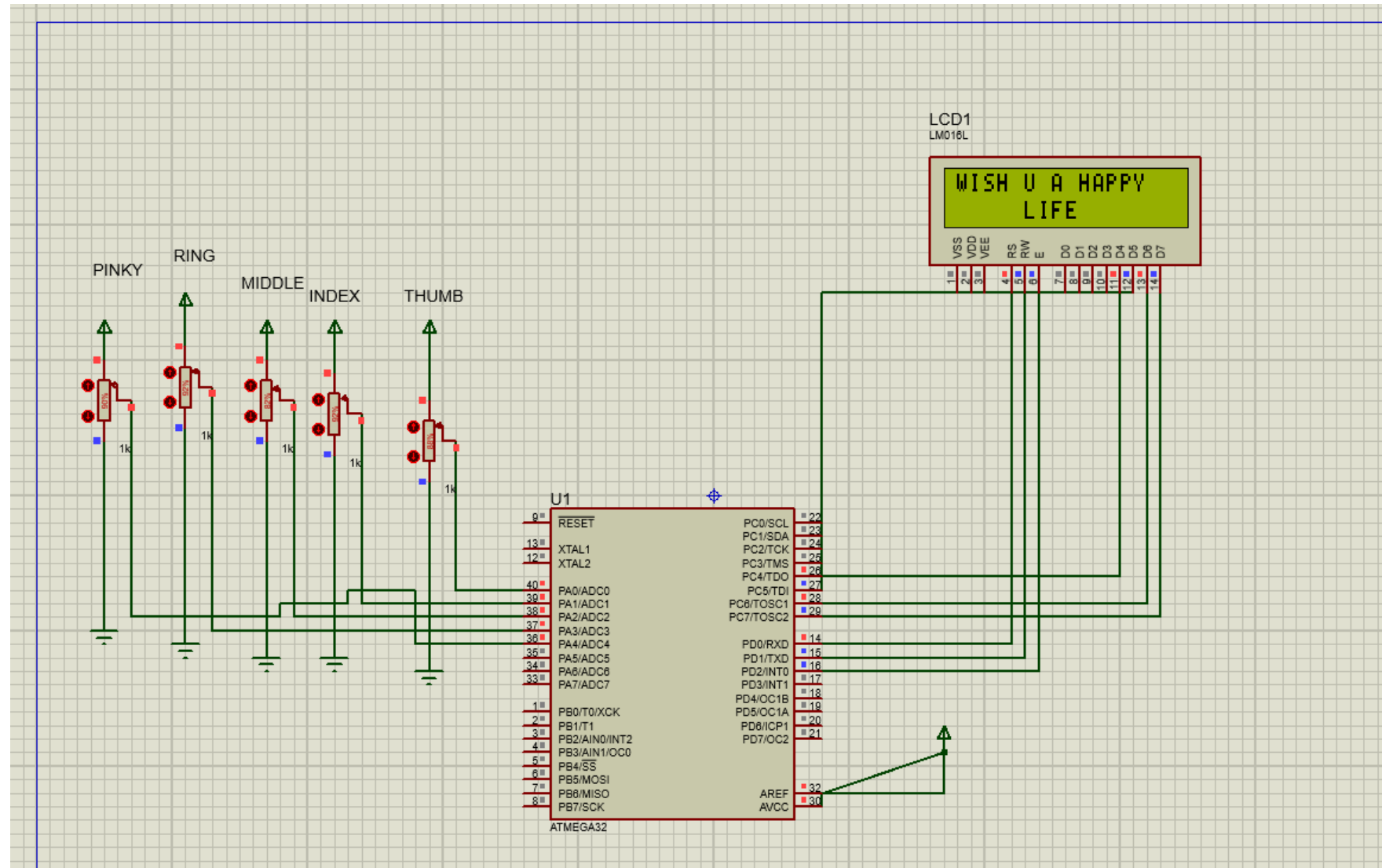
(%80----%60)

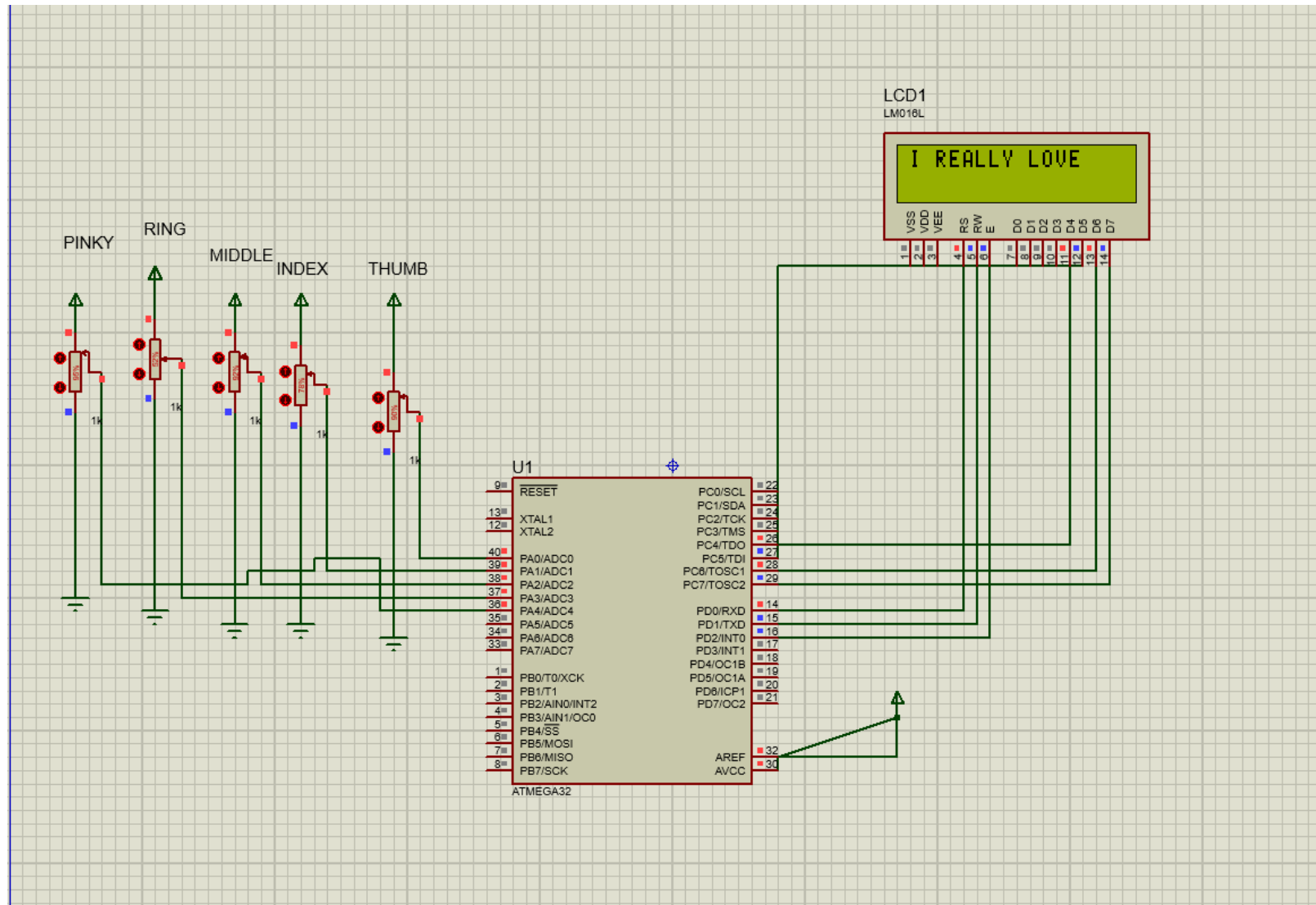
# SIMULATION SCREENSHOT

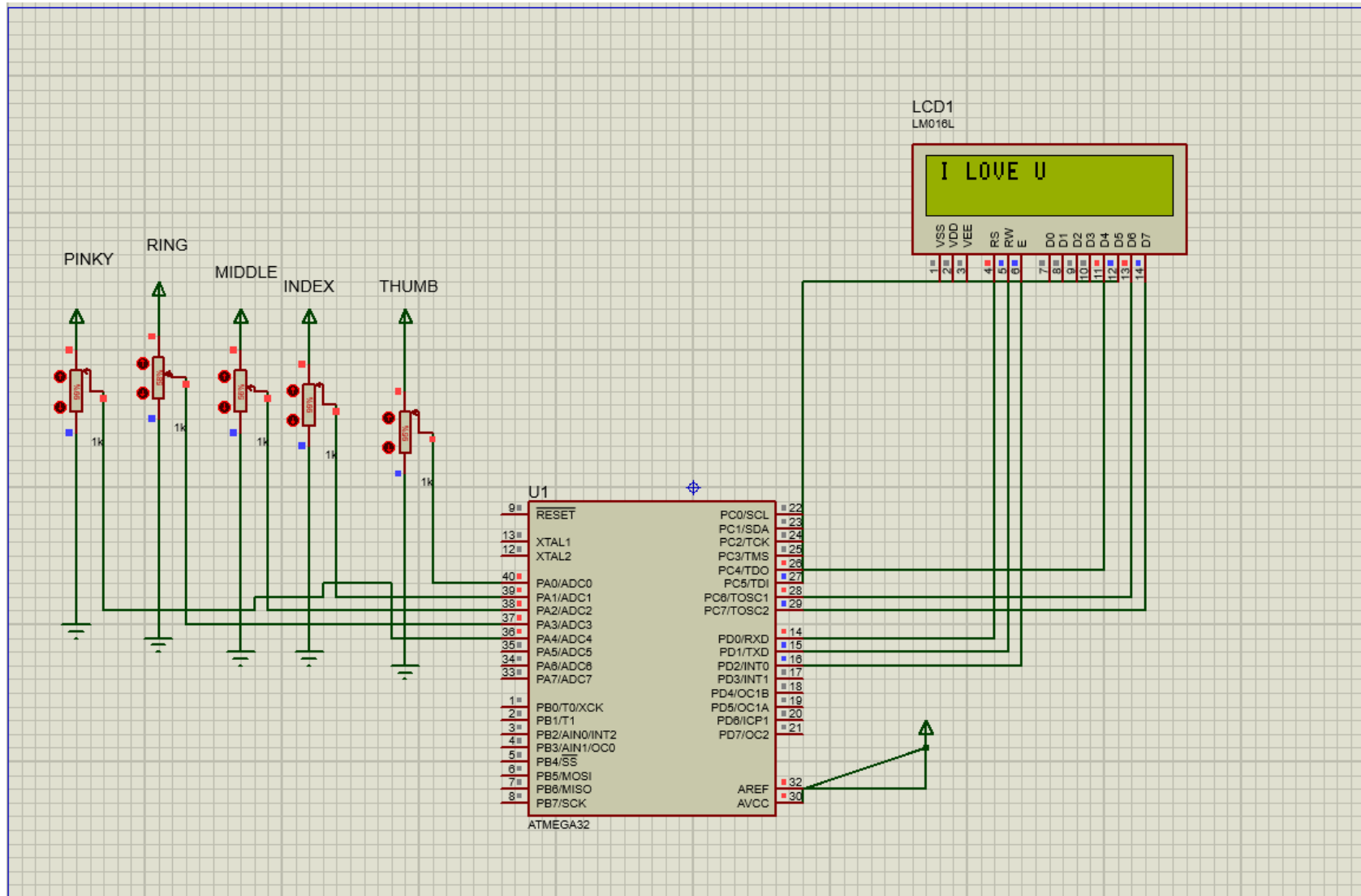


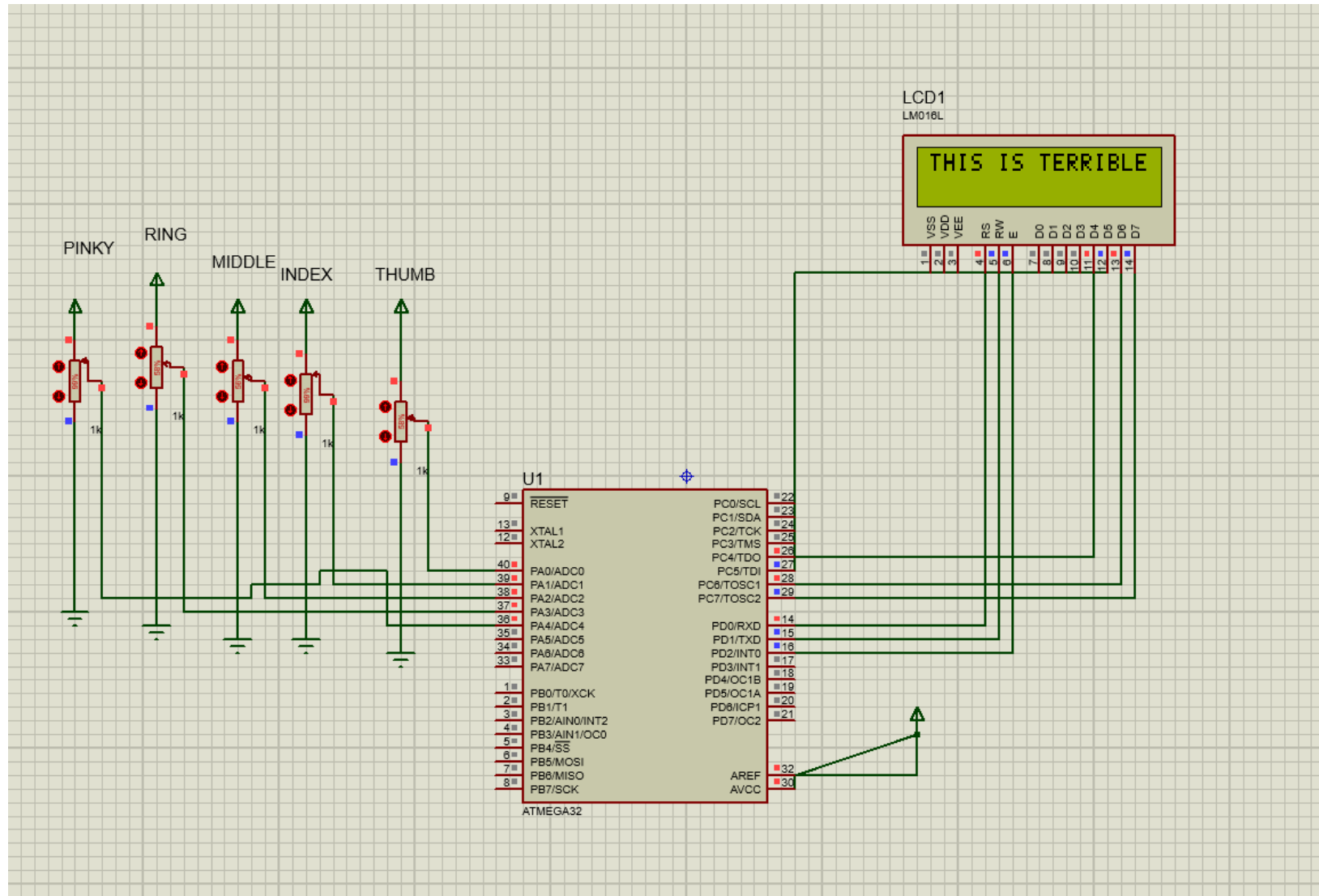


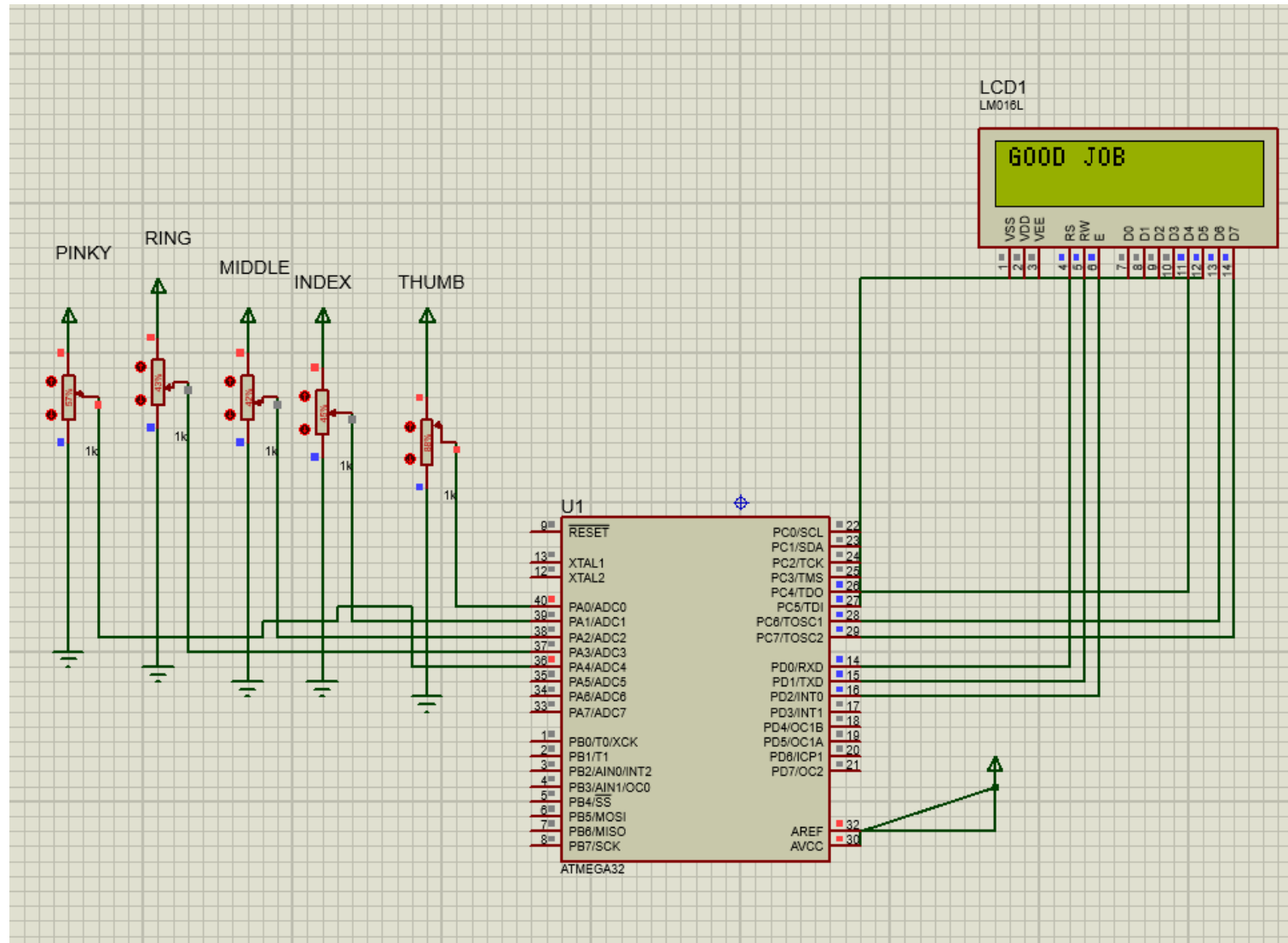












# CODING

□ Layered Archeticture.

❖ Hal layer

❖ Mcal layer

□ GitHub Link:

[https://github.com/Hager44/AMIT\\_GraduationProject\\_DeafGloves.git](https://github.com/Hager44/AMIT_GraduationProject_DeafGloves.git)



**Thanks**