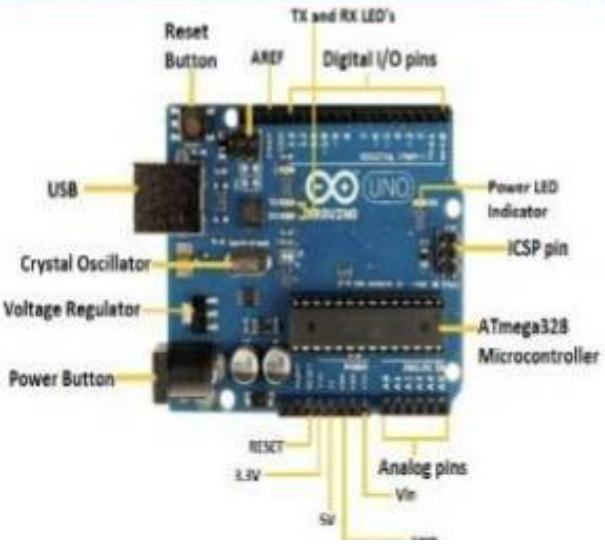

CodAlpha IoT Internship

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TASK 2: *SENSOR-BASED STIMULATION*

TOPIC:-

AUTOMATIC NIGHT LAMP USING LDR IN TINKERCAD

CODE:

```
void setup()
{
 Serial.begin(9600);
 pinMode(7, OUTPUT);
}
void loop()
{
 int c = analogRead(A0);//Assuming A0 is the analog input pin
 Serial.println(c);
 if (c < 500) // Corrected: Added closing parenthesis
 {
  digitalWrite(7,LOW);
 }
 else // Corrected: The 'else' must immediately follow the closing brace '}' of the 'if' block.
 {
  digitalWrite(7,HIGH);
 }
}
```

- SETUP FUNCTION:
- • setup() runs once when the Arduino starts.
- • Serial.begin(9600);
- → Starts the serial communication at a speed of 9600 bits per second (baud rate).
- This allows Arduino to send data to your computer (you can see it in the Serial Monitor).
- • pinMode(7, OUTPUT);
- → Sets digital pin 7 as an output pin, which means it will be used to send signals (e.g., to turn on/off an LED).

CODE:

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void setup()
{
 Serial.begin(9600);
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  digitalWrite(7, HIGH);
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```

- LOOP FUNCTION :
- This part runs repeatedly in a continuous loop.
- • int c = analogRead(A0);
- → Reads the analog input from pin A0.
- The value of c will be between 0 and 1023:
- • 0 means 0V (no signal).
- • 1023 means 5V (maximum signal).
- • Serial.println(c);
- → Prints the sensor value (c) to the Serial Monitor so you can see it.
- • if (c < 500)
- → Checks if the analog value is less than 500 (i.e., the sensor input voltage is below around 2.5V).
- • If true, then:
- digitalWrite(7, LOW);

Turns OFF whatever is connected to pin 7 (like an LED).

• If false, then:

- digitalWrite(7, HIGH);

Turns ON the LED (or any output device) connected to pin 7.

CODE:

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void loop()
{
 int c = analogRead(A0);//Assuming A0 is the analog input pin
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  digitalWrite(7, HIGH);
 }
}
```

- IN SIMPLE WORDS :
- This code:
- • Reads the analog input from pin A0 (could be from a sensor like LDR, potentiometer, etc.).
- • Prints the analog value to the Serial Monitor.
- • If the value is less than 500 → turns off digital pin 7.
- • If the value is 500 or more → turns on digital pin 7.

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void loop()
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 Serial.println(c);
 if (c < 500) // Corrected: Added closing parenthesis
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  digitalWrite(7, LOW);
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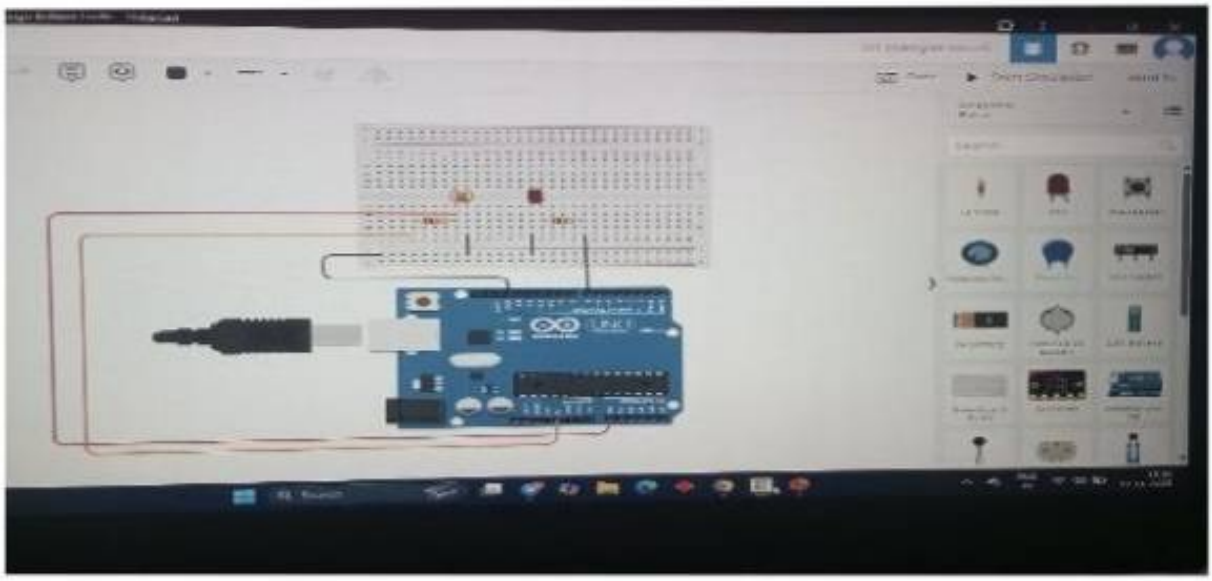
 else // Corrected: The 'else' must immediately follow the closing brace '}' of the 'if' block.
 {
  digitalWrite(7, HIGH);
 }
}
```

- EXAMPLE :
  If you connect:
- • An LDR (light sensor) to A0, and
- • An LED to pin 7,

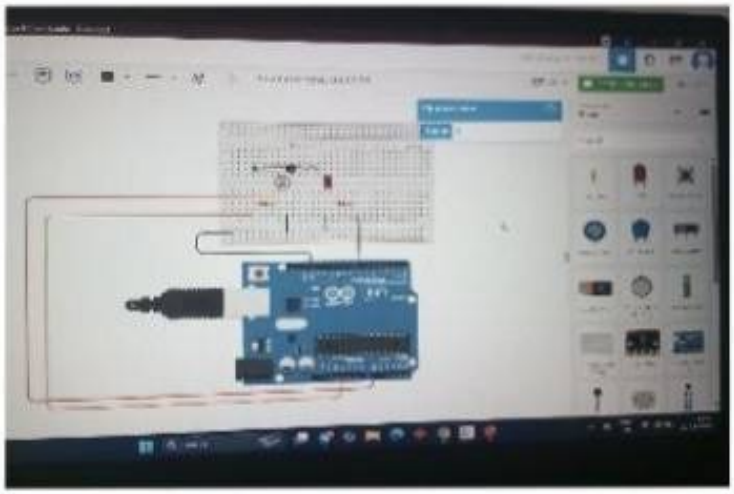
Then this code can act as a light-activated lamp:

- • When it's dark (low light → low analog value), LED turns ON.
- • When it's bright (high light → high analog value), LED turns OFF.

BEFORE STIMULATION:



AFTER STIMULATION:




Thank You