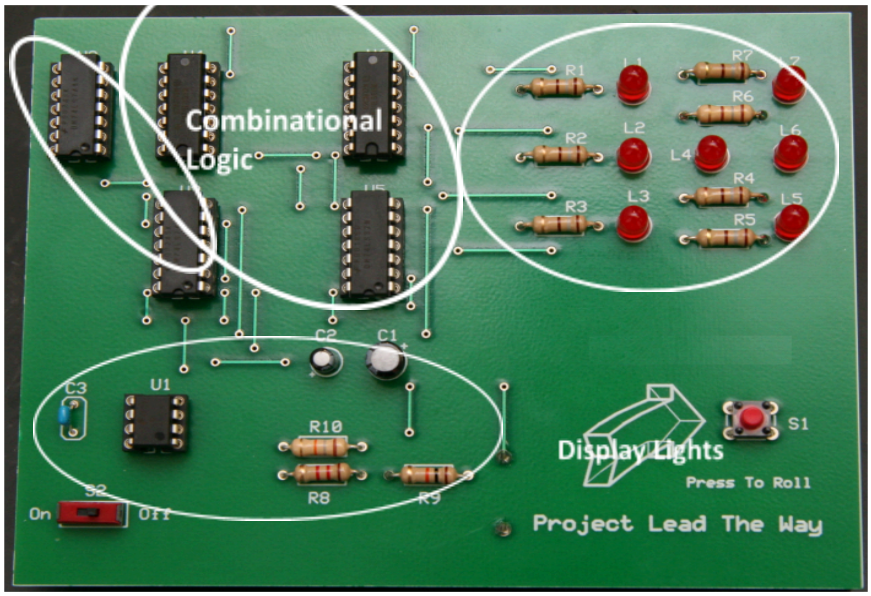
W17: Random Number Generator Project



Matthew, Jeide

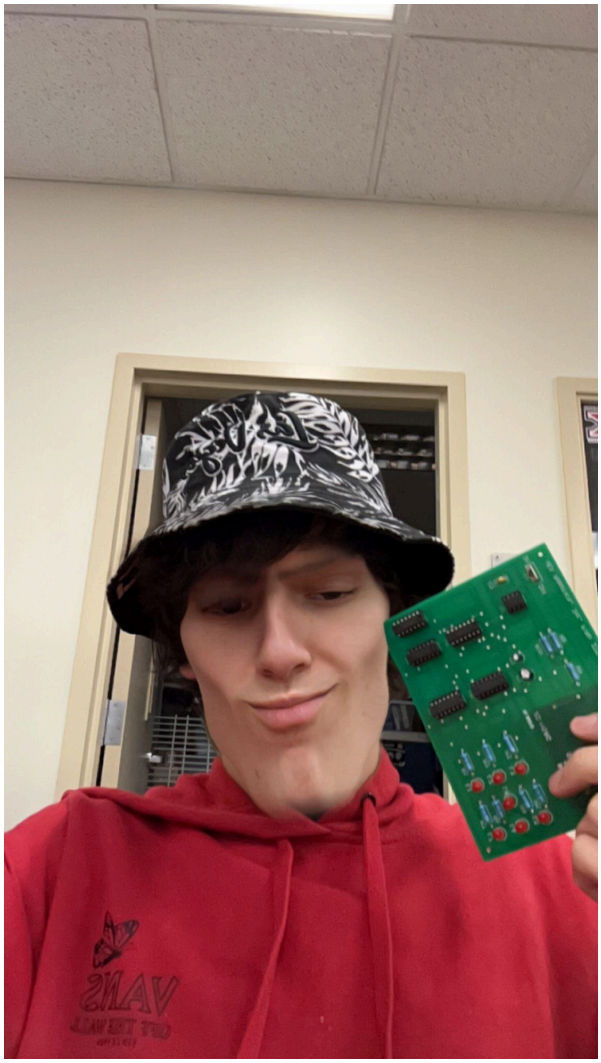
Guzman

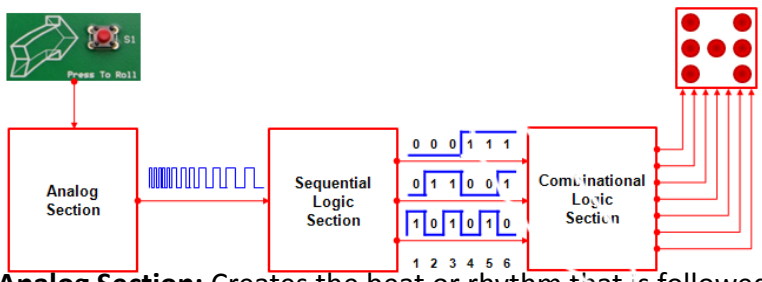
12/6/2024

Period 2

Guzman's PLTW Engineering Digital Electronics

Matthew 12/6/24 Period 2





Analog Section: Creates the beat or rhythm that is followed by the circuit.
Sequential Logic: Generates the sequencing or order of the signals.
Combinational Logic: Translates the sequence into a pattern of lights to turn on or off.
Display Lights: Receive a signal from the combinational logic section to turn on or off.

Guzman's PLTW Engineering Digital Electronics

Matthew 12/6/24 Period 2

Attach a **video link** of your working Number Generator and remember to **explain what the device is doing** and display the soldering on the back. Make sure that the camera is able to focus on your soldering skills: https://www.youtube.com/watch?v=dlORIp_oSBo&ab_channel=Sgdoc7

https://youtube.com/shorts/6LWNFcClFEQ

1. **Lessons Learned Regarding Soldering: (minimum 100 words)**

During this project, I gained significant experience in soldering techniques and safety procedures. I learned the importance of maintaining a clean and organized workspace to prevent accidents and ensure precision. Identifying components correctly before soldering was a critical step, as placing the wrong component could compromise the circuit's functionality. I also discovered the value of applying the right amount of heat and solder to make secure connections without damaging the components, particularly the PCB. Proper ventilation and the use of protective equipment were emphasized as well to mitigate exposure to fumes and potential lead poisoning. Overall, this project enhanced my technical skills and confidence in handling delicate electronic components.

2. Lessons Learned about Learning: (minimum 100 words)

This project taught me the importance of patience, attention to detail, and adaptability. I realized that problem-solving often requires a methodical approach, especially when diagnosing issues in a circuit. Rushing through steps can lead to mistakes that are time-consuming to amend, emphasizing the need to remain focused and deliberate. Additionally, I learned to embrace challenges as opportunities to grow recognizing that setbacks are a natural part of the learning process. This experience reinforced the value of persistence and careful planning in achieving success, not only in technical tasks but also in broader life situations.

3. Use the data table shown to tally each number displayed as the roll button is pressed **100 times.** After you complete the tally, calculate the total count for each number and its distribution.

1 rolled 27 time(s)

2 rolled 9 time(s)

3 rolled 21 time(s)

4 rolled 19 time(s)

5 rolled 12 time(s)

6 rolled 12 time(s)

Total rolls: 100

Die Number Result	Tally of the Die Number	Distribution of the Die Number
1	27	27/100
2	9	9/100
3	21	21/100
4	19	19/100
5	12	12/100
6	12	12/100