# Introductory Lecture

Electronics Club

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A short description of

# BINARY NUMBER SYSTEM

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# Binary Number System

- Just another method of describing numbers
- Contains only 0s and 1s
- Conversion from binary to normal (decimal) system
- Conversion from normal to binary system

An introduction

# DIGITAL ELECTRONICS

# What is “Digital Electronics”?

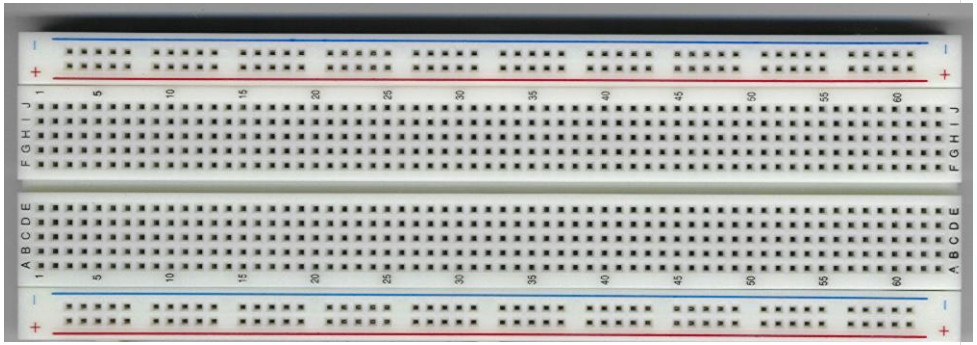
- Consists of only two states: LOW and HIGH
- LOW corresponds to 0V, and HIGH corresponds to 5V (approx.)
- Signals work as binary numbers, LOW stands for 0, and HIGH stands for 1.
- Can use boolean algebra on electronic signals to perform operations and calculations.

# Why?

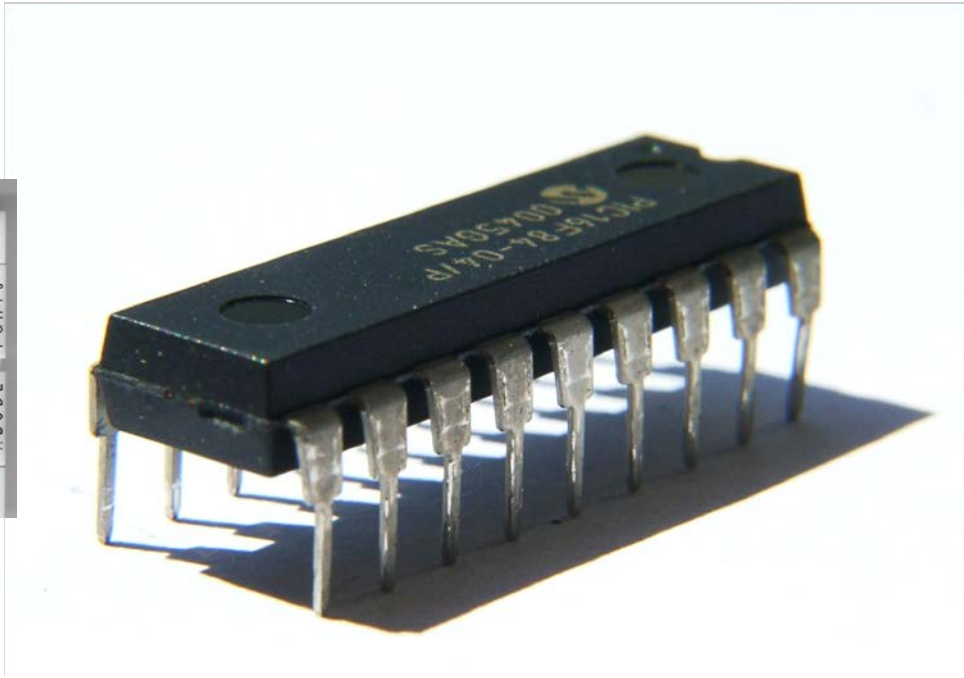
- Easier to design
- Less chance of errors due to voltage fluctuations
- Others…

# Tools of the trade

**Breadboards**



**Integrated circuits**



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Let’s get started!

# PROBLEM STATEMENT

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“Design a circuit that counts the number of times a button is pressed.”

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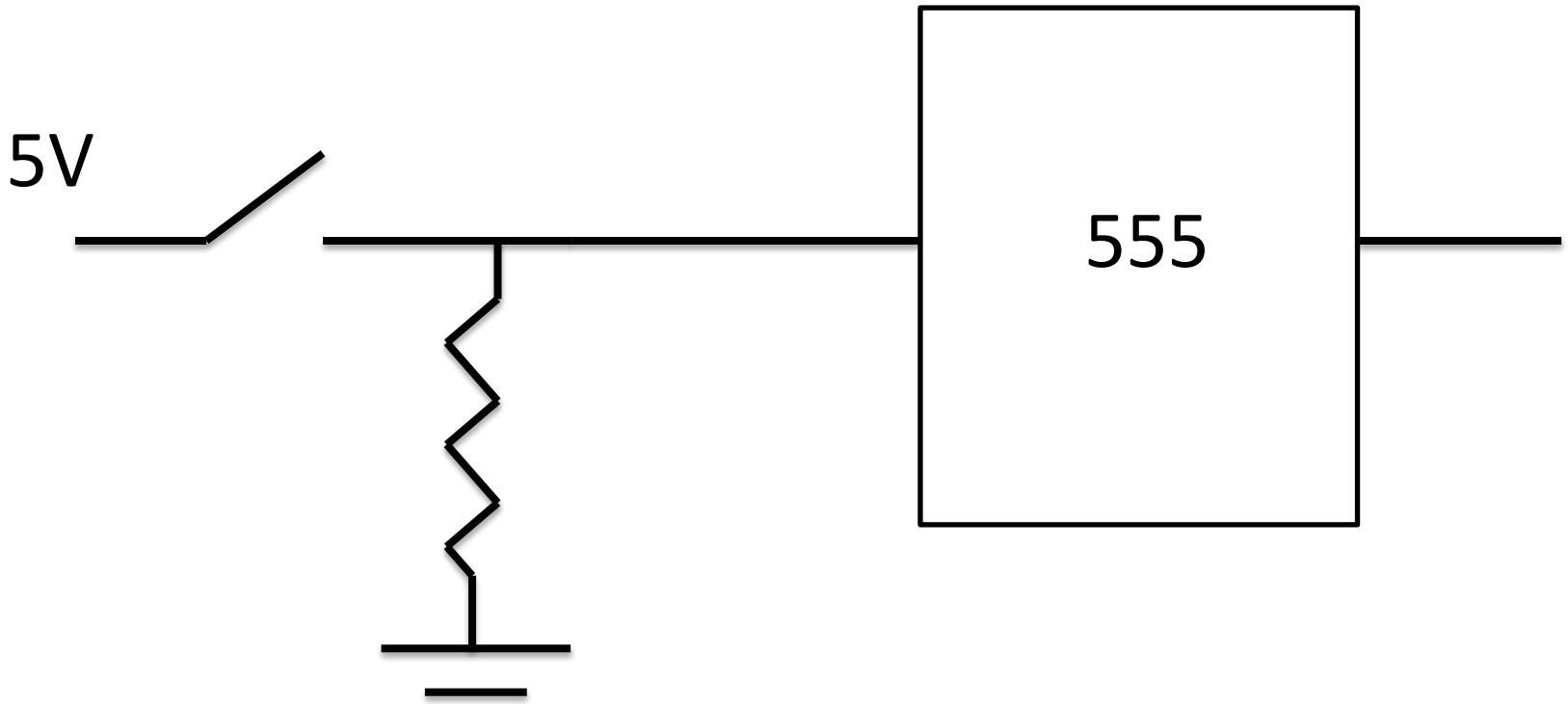
# What do we need?

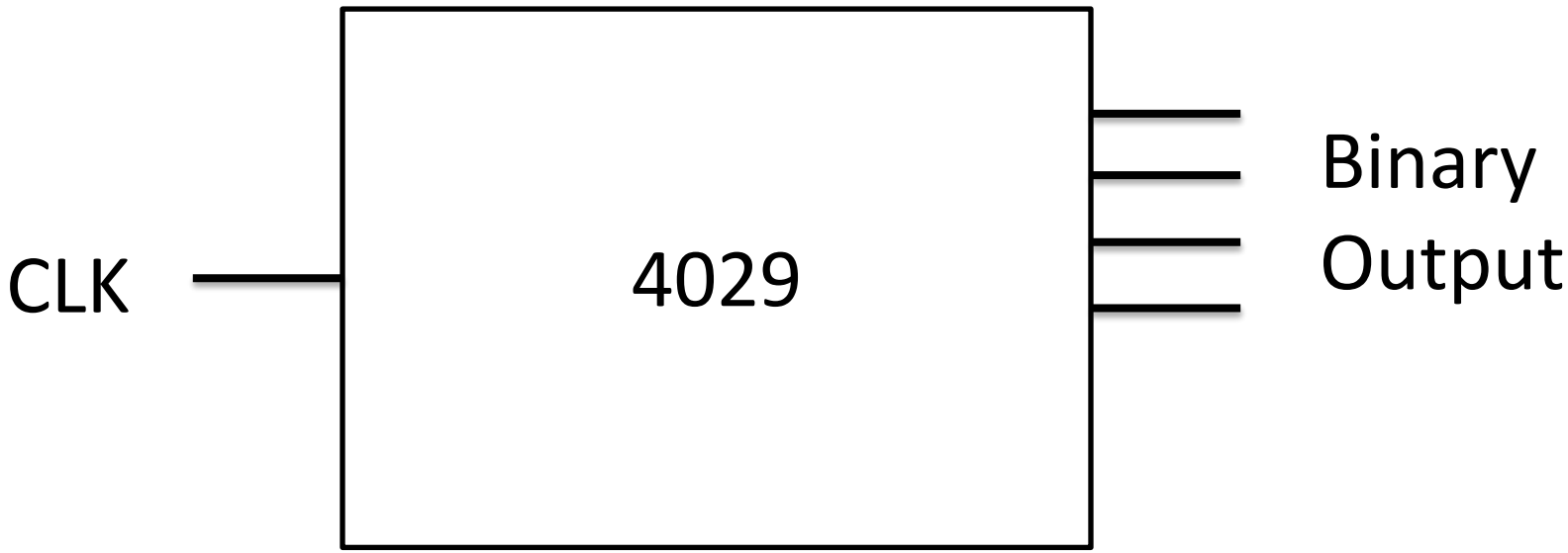
- A button
- Something that counts and stores the number of times the button has been pressed
- A display

# Meet the button

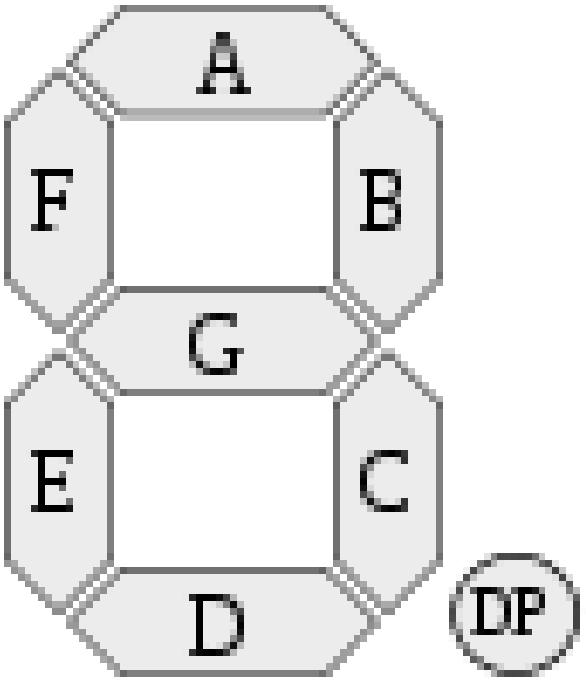


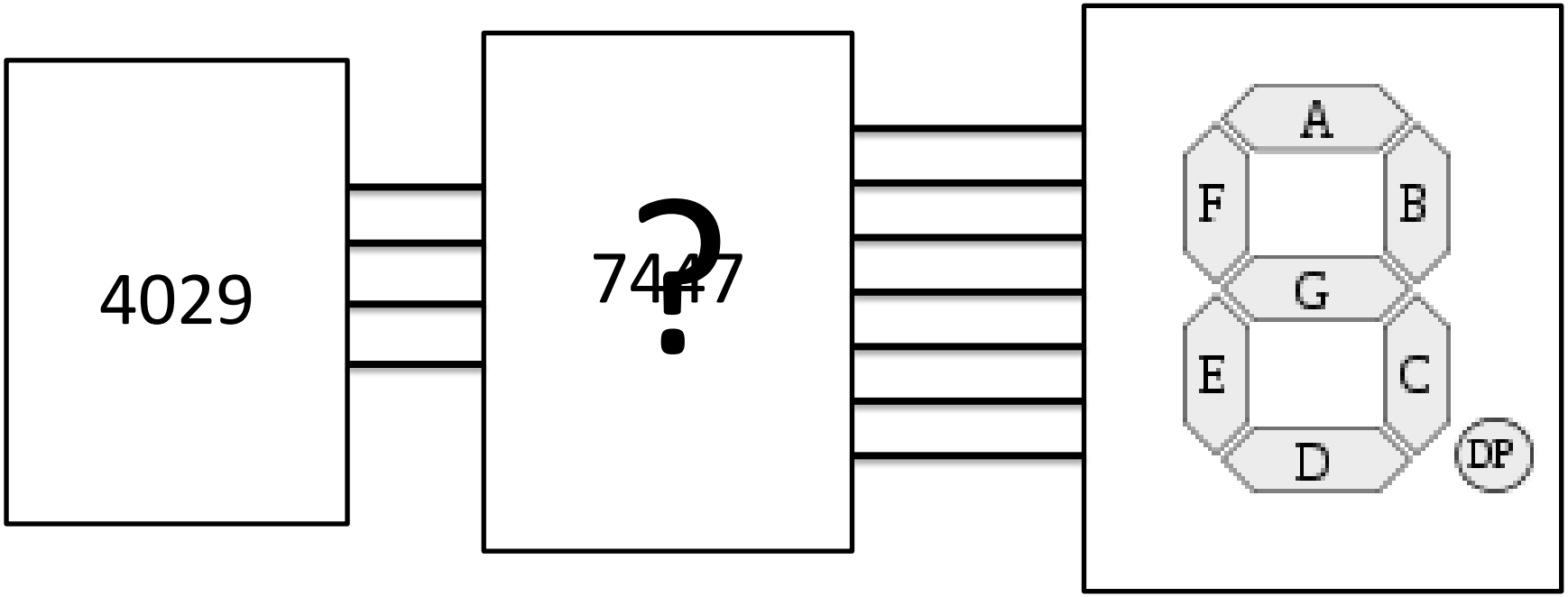
# How do we count?

# Using a 4029 counter



# Time to display



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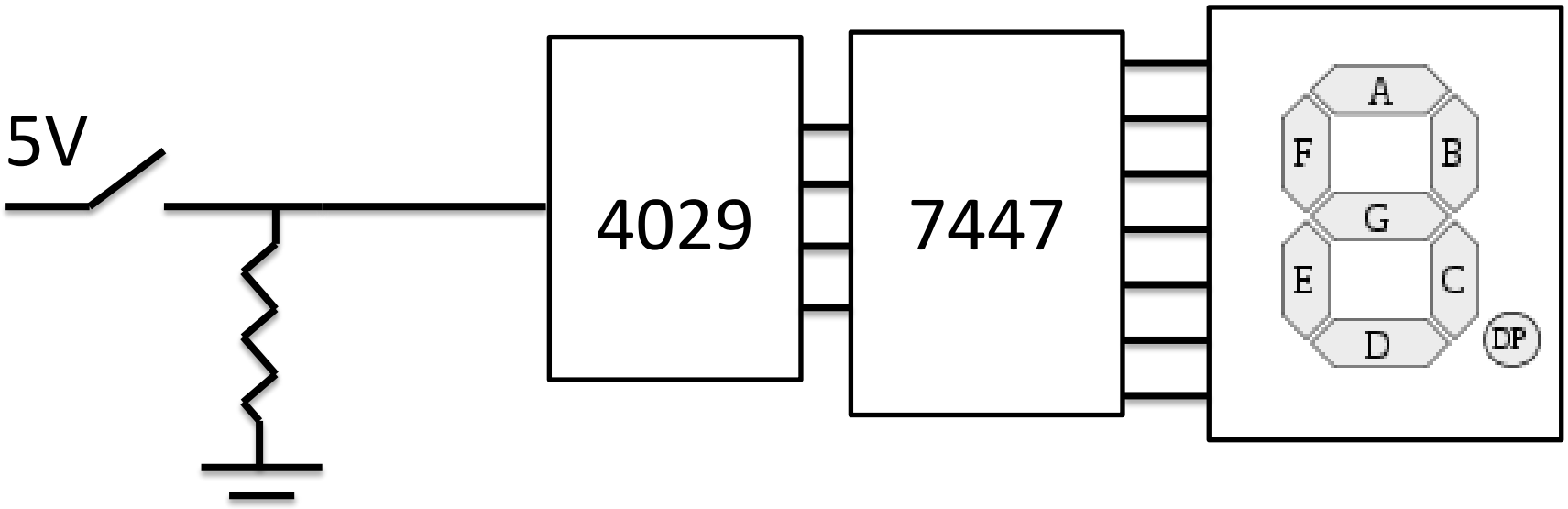
# Final Circuit



# See you at the workshop!

- Workshop slots will be conveyed shortly
- YOU will implement the circuit
- We will look at some other interesting facts and features about the ICs

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# Parting remarks

- Website: students.iitk.ac.in/eclub
- E-mail: eclub.iitk@gmail.com

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# Thank you!

Abhinav Prateek

Chirag Sangani

Sumeet Kumar

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