

---

CSE 2301 – Spring 2022

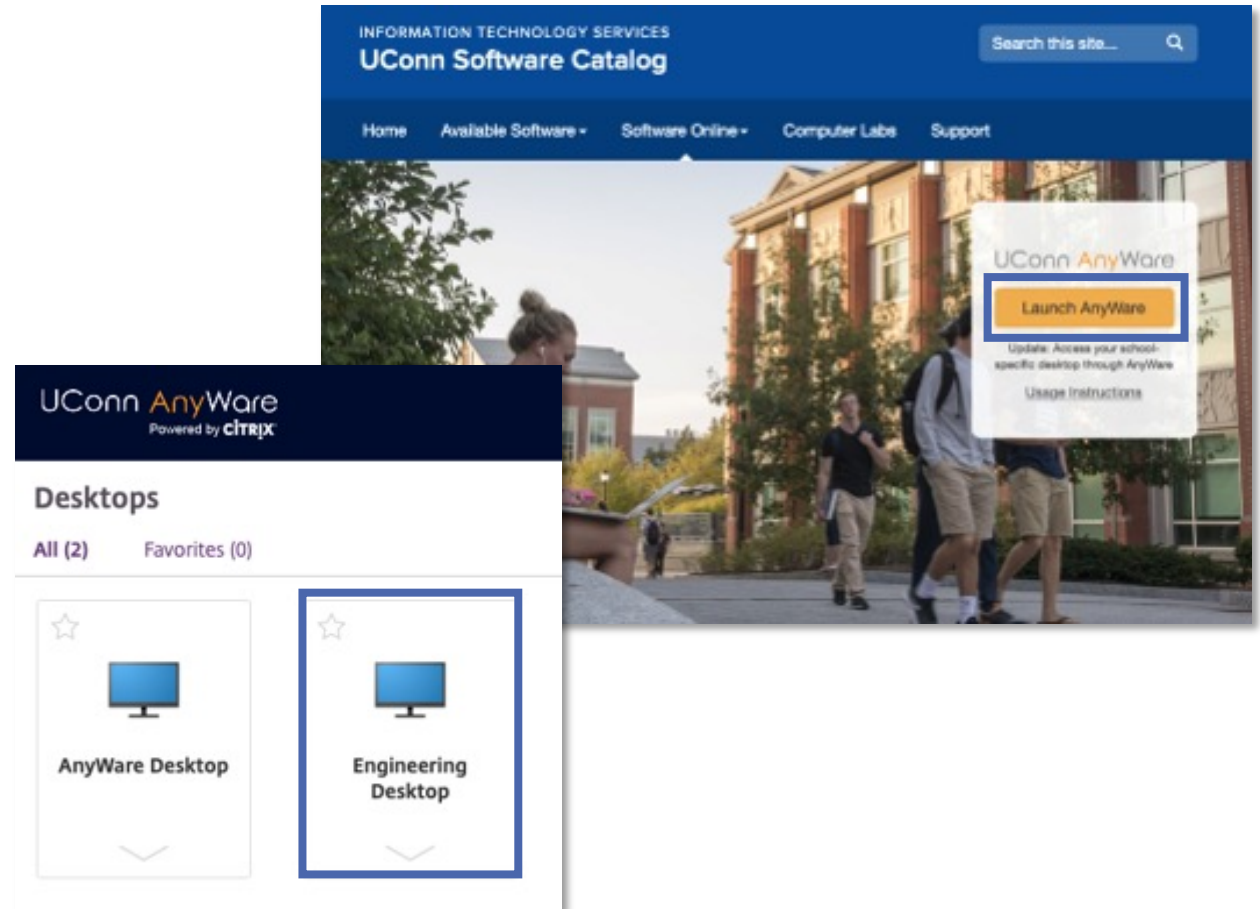
# LAB 1: LOGICWORKS

---

# INTRODUCTION:

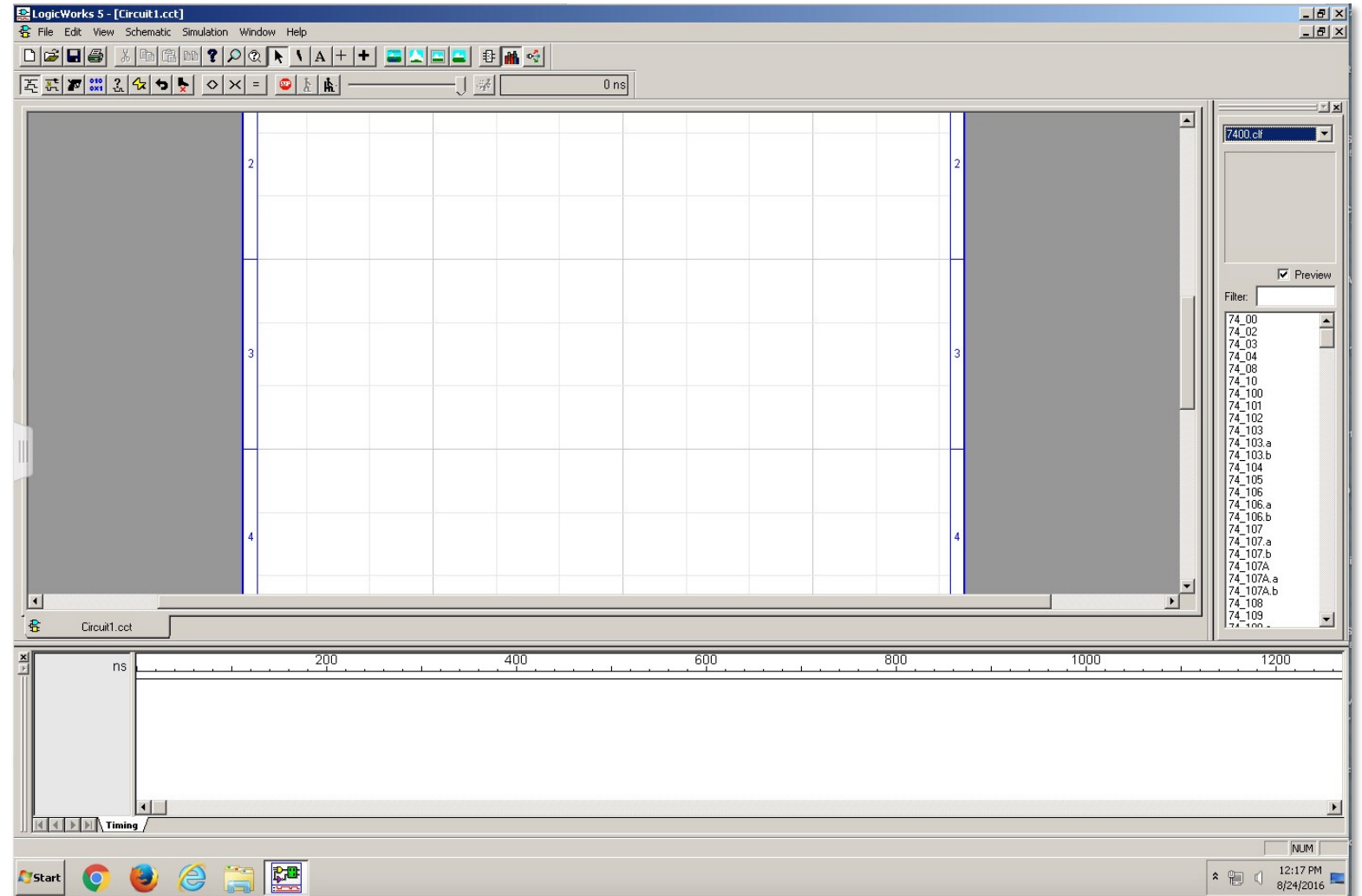
## GETTING TO LOGICWORKS

- Start by launching UCONN AnyWare. There will be a link for it in your lab instructions, which you should follow along with.
- Open **LogicWorks 5** once you reach the Engineering VPC desktop.

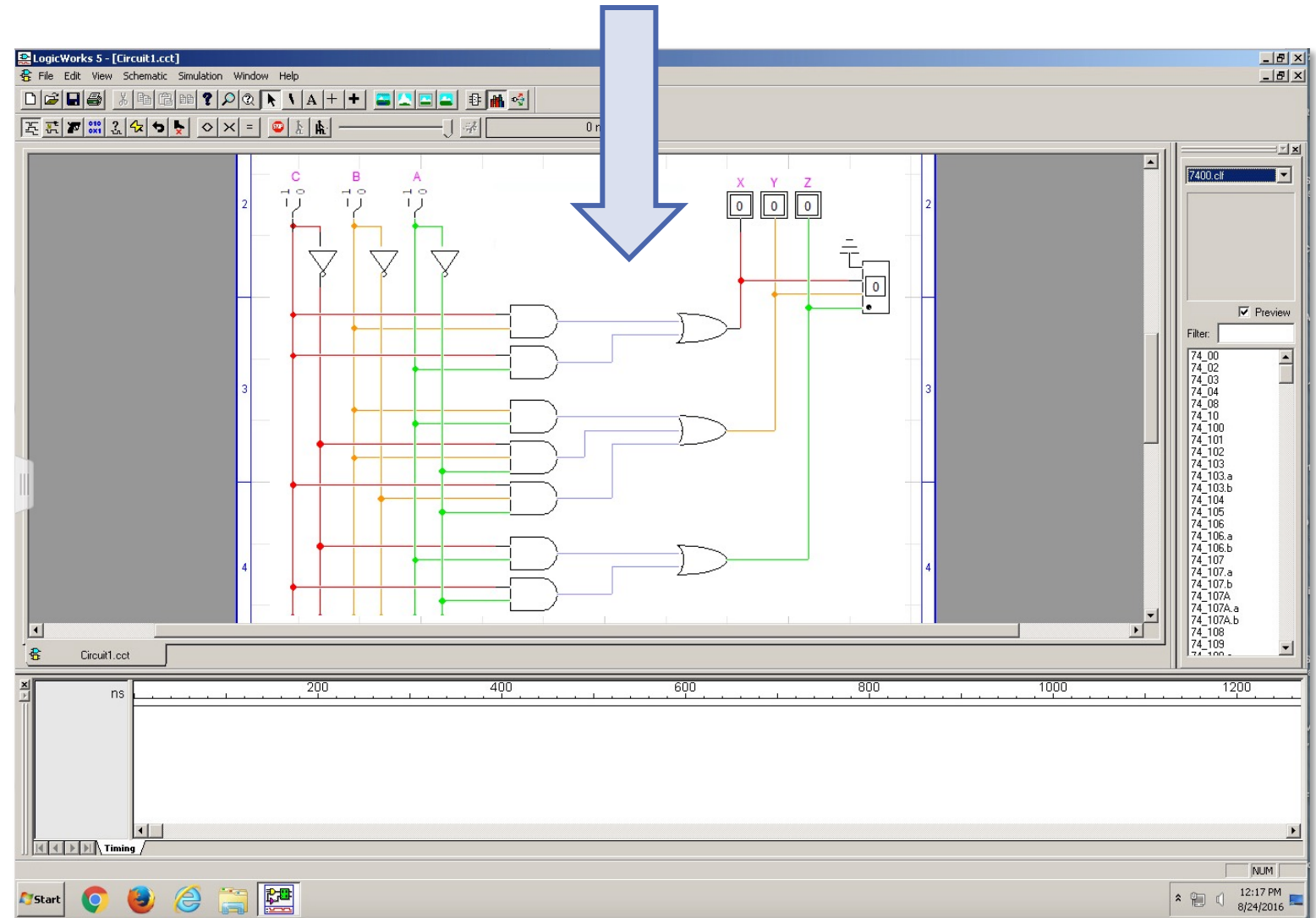


---

LogicWorks will  
open with a frame  
like this.

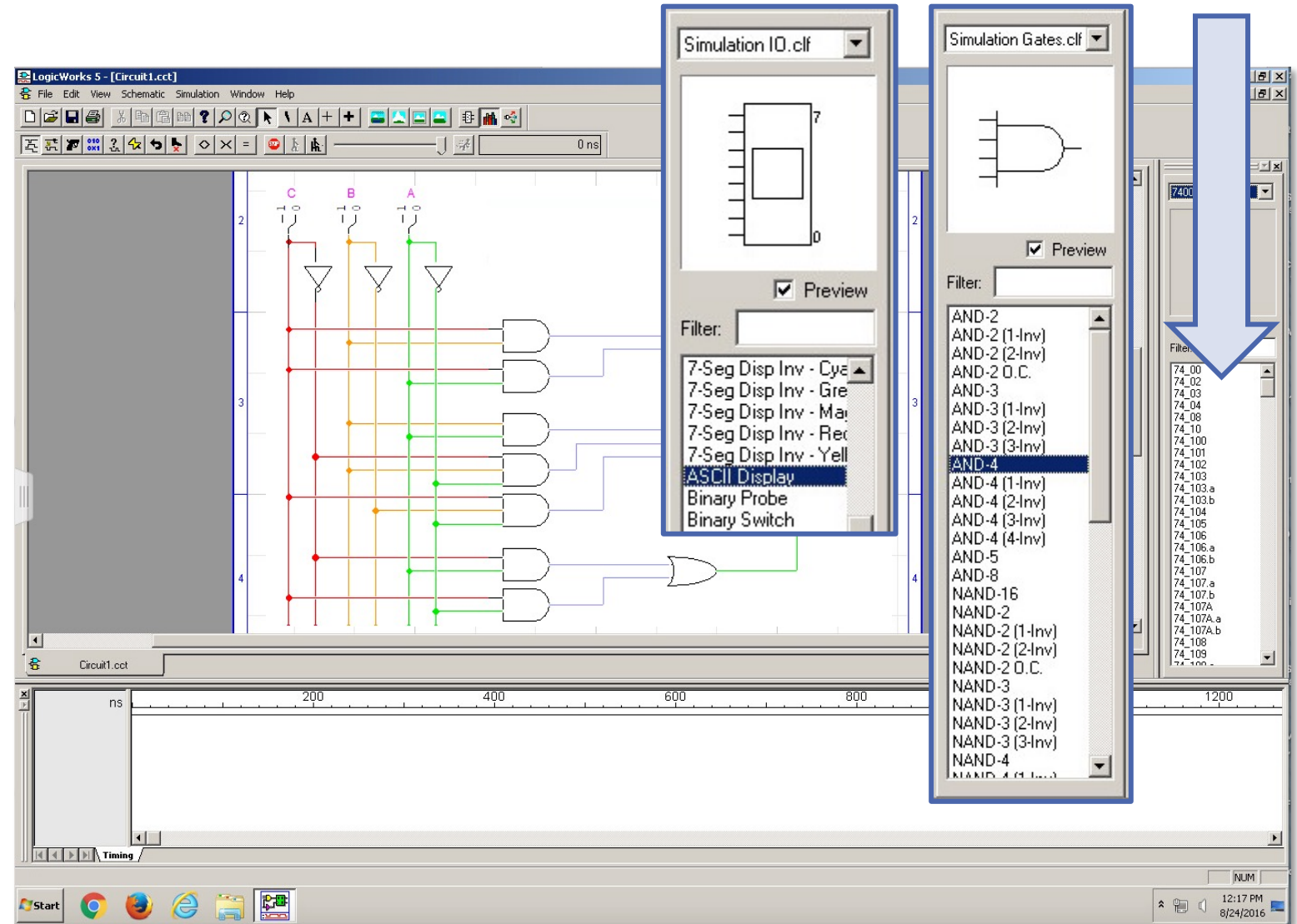


—  
Your design will go  
here.

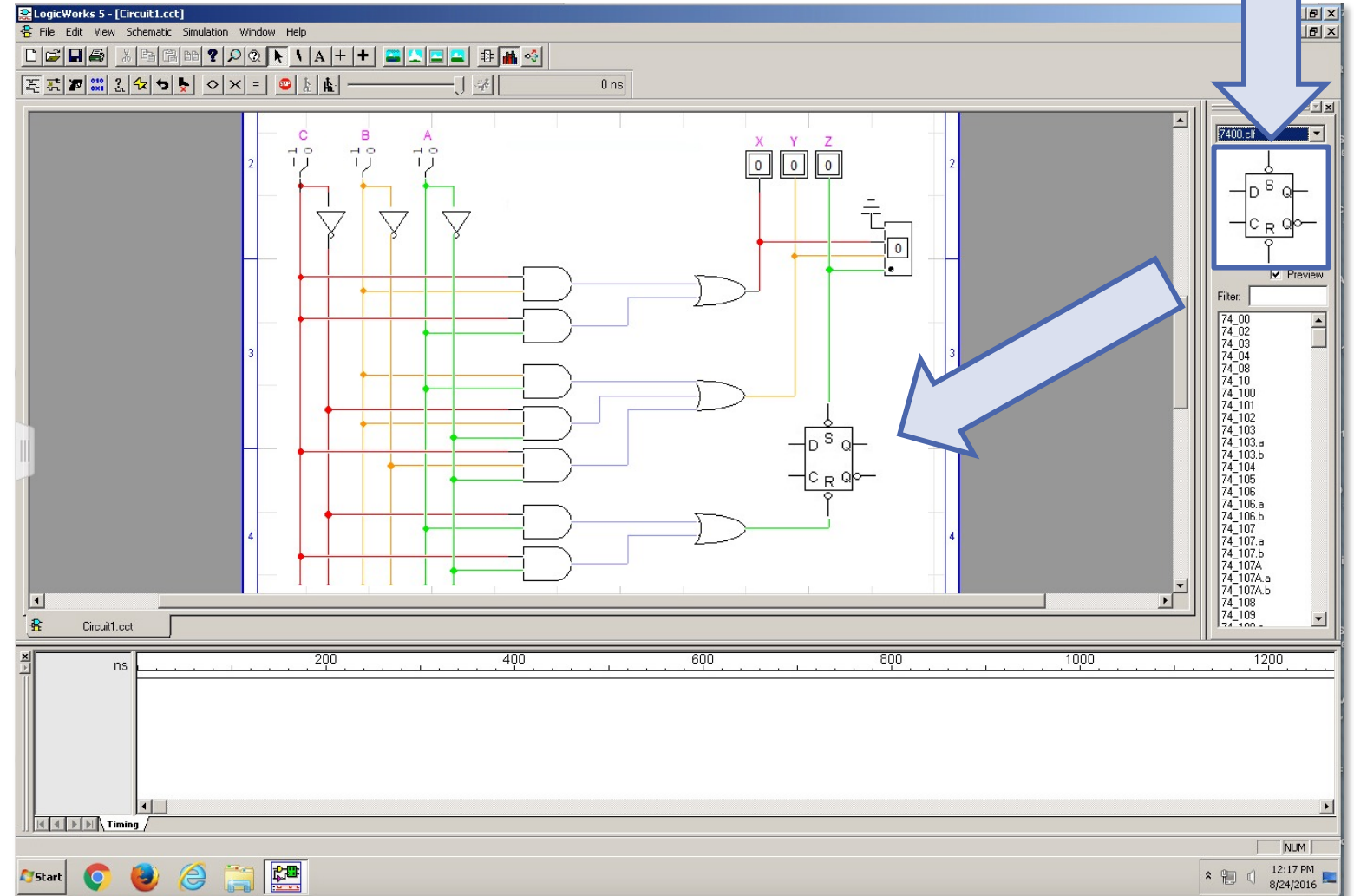




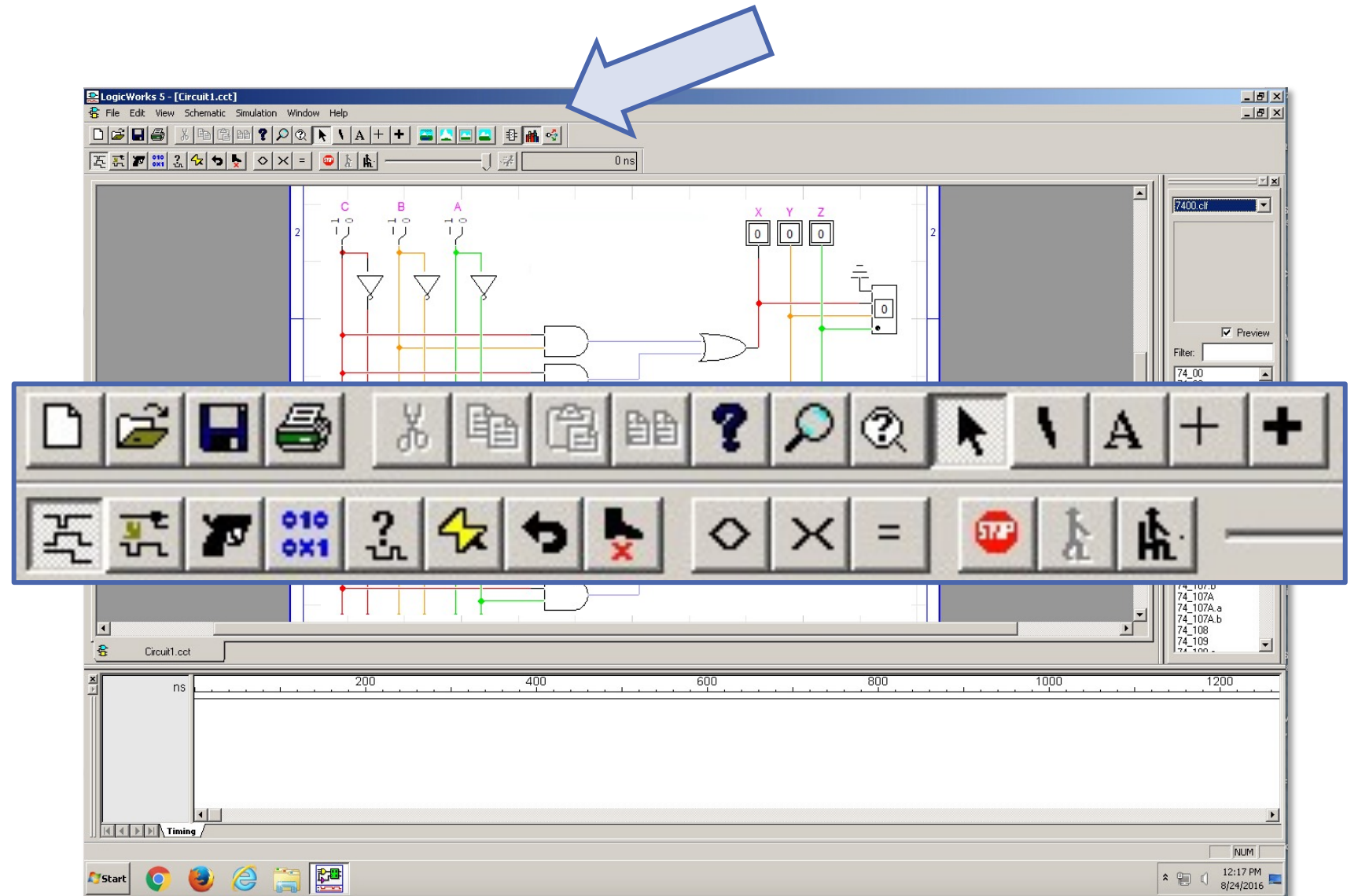
You will choose components here.



Drag components from the parts palette to place them.



All your drawing  
and operational  
tools are here.

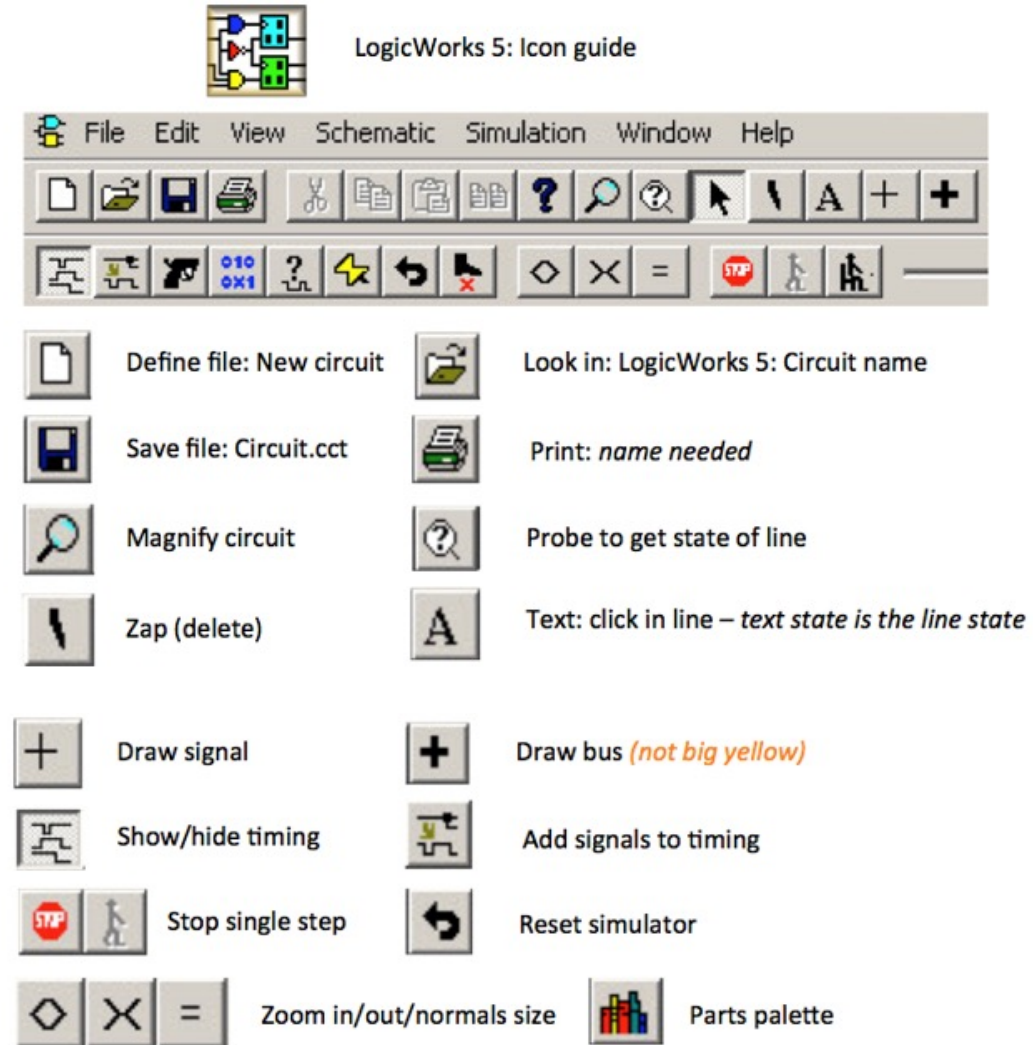


---

# INTRODUCTION:

## TOOLS IN LOGICWORKS

- Here are the tools you be using.
- You won't be using most of these.  
The zap, draw signal, text, and select tools are by far the most important.



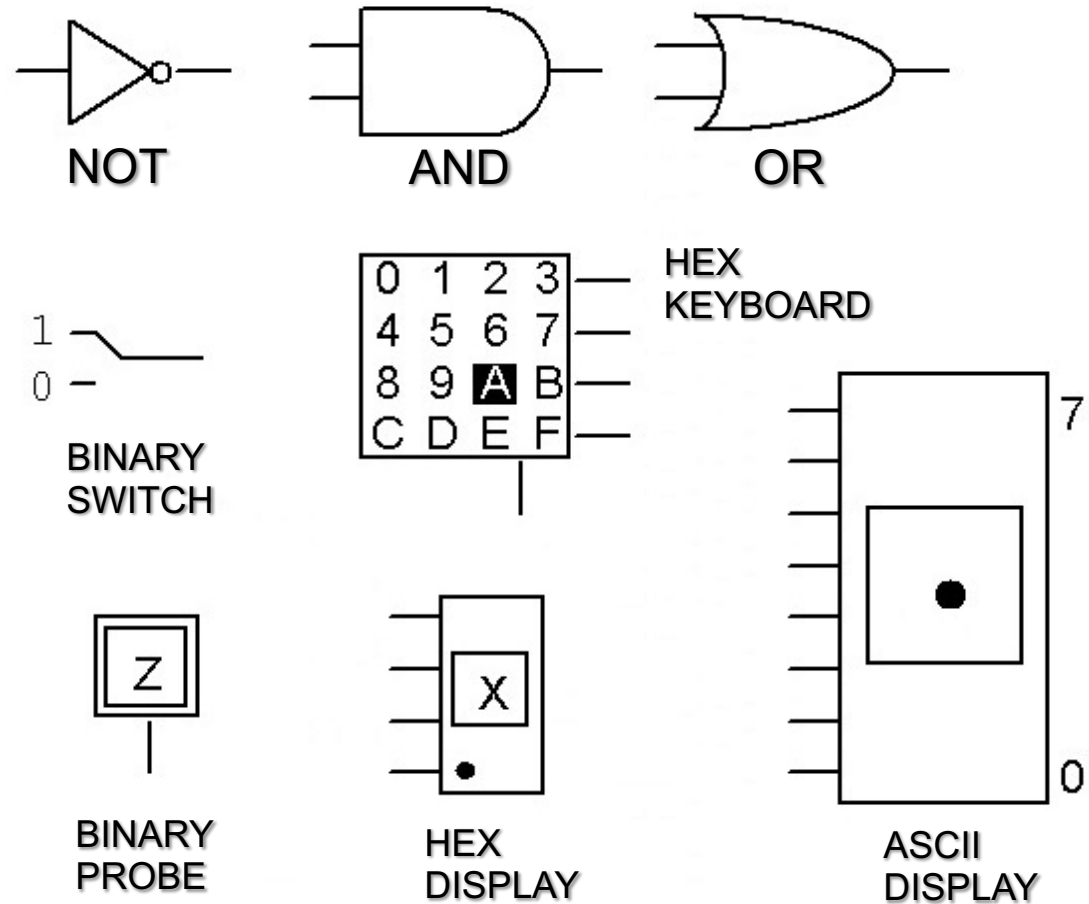


---

# INTRODUCTION:

## SYMBOLS IN LOGICWORKS

- The following “symbols”, or components (interchangeable), will also be important.
- The names shown here are their names in LogicWorks, so that’s that you should search in the parts palette.

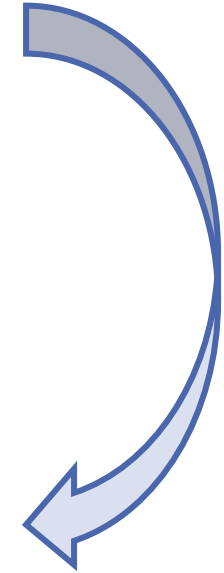
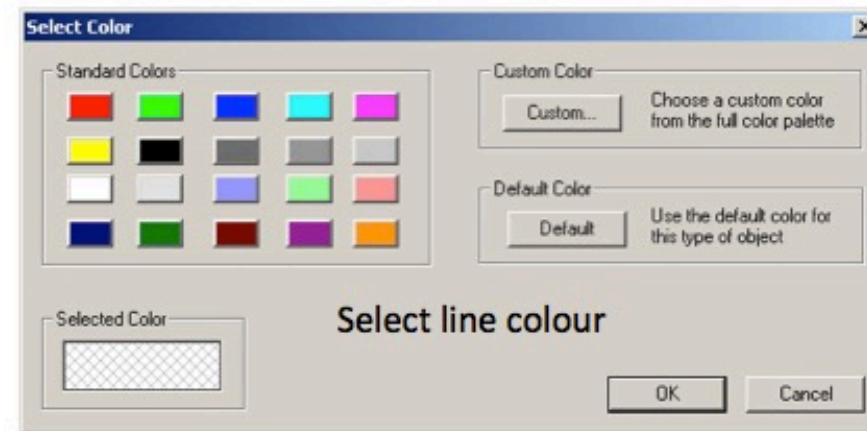
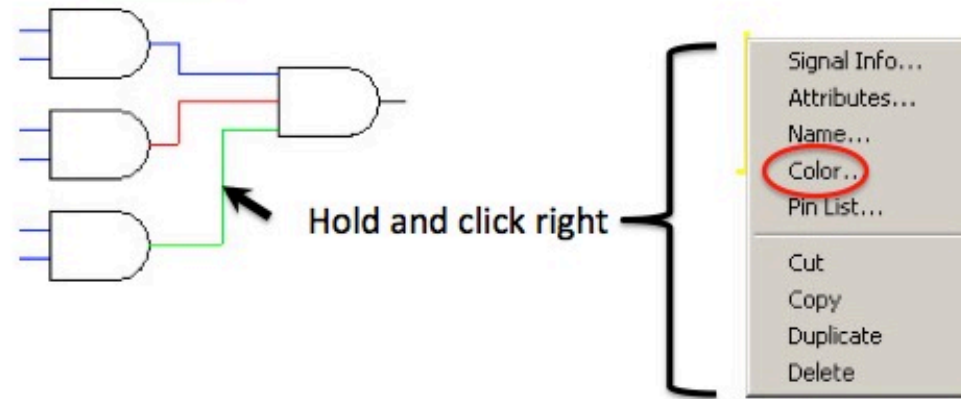


---

# INTRODUCTION:

## COLORING LINES

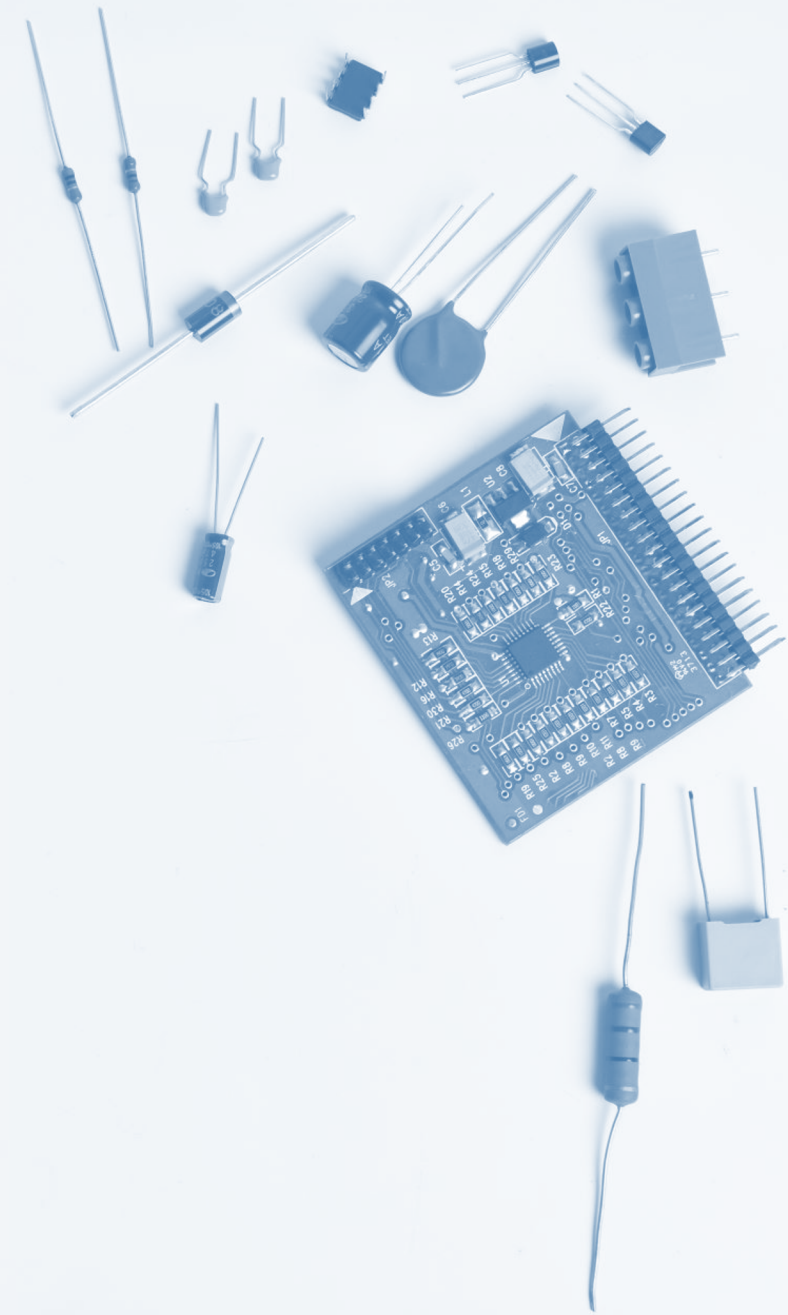
- Coloring lines is relevant in the capacity that it makes your circuits easier to follow.
- Coloring serves no objective functional purpose. It is optional.



# EXAMPLE:

A SIMPLE INPUT/OUTPUT

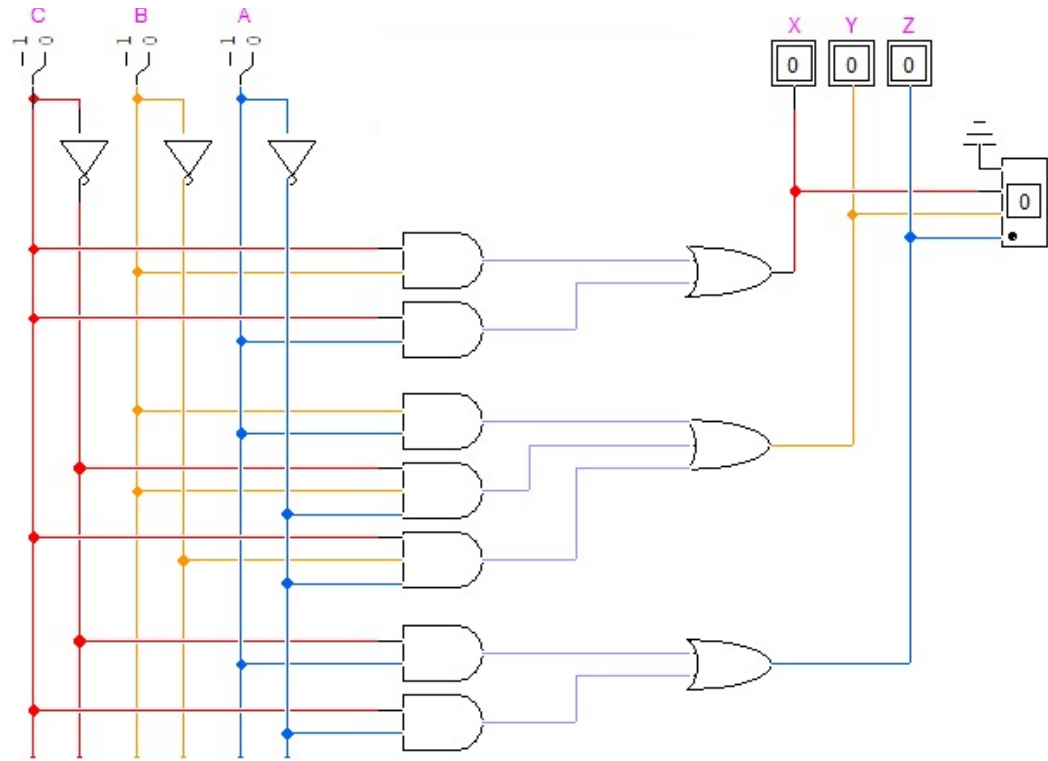
\*\*SWITCH TO DEMONSTRATION



# YOUR TASK:

## EXERCISE 1

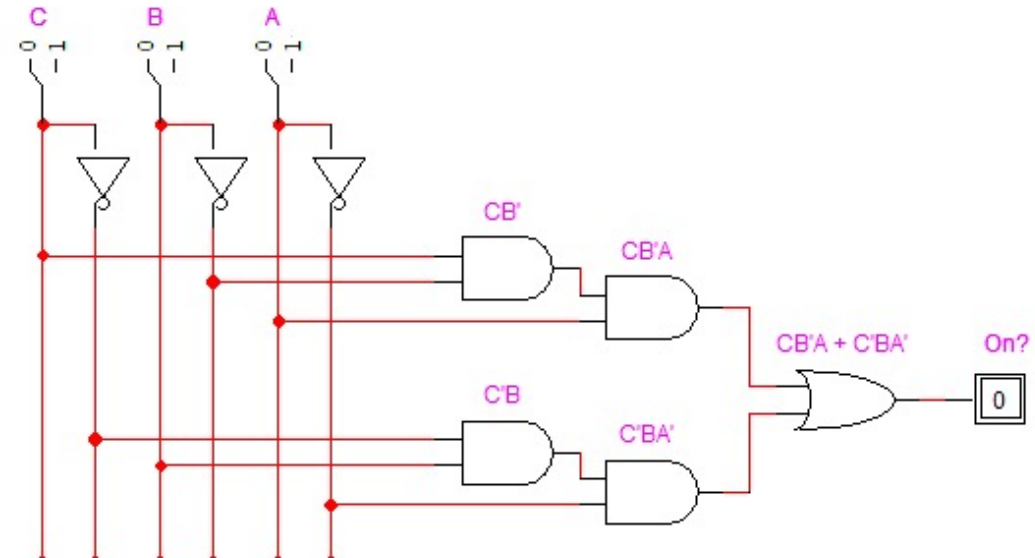
- Go ahead and try to replicate the figure seen on the left (from the instructions).
- You don't need to color your lines but it may help with organization.
- You don't need to understand how circuit this works yet, but know that it converts a number from one convention to another. Other circuits of this kind will look similar.



# YOUR TASK:

## EXERCISE 2

- In this exercise we're going to try to detect inputs, which is invaluable for many applications.
- That is, if the switches are in a certain configuration (or one of multiple), then a binary probe at the end will turn on.
- Using the information provided by the instructions, create a circuit detecting inputs **0010**, **1101**, and/or **0101**.



\*Given as an example for what your circuit will look like (but with one less input). DO NOT COPY, THIS IS A DIFFERENT CIRCUIT.



---

# OTHER NOTES

## AND REPORT INFORMATION



- Remember to save all your work to the P: drive!
  - The book is not required, nor is it recommended.
  - You are required to get all of the hardware components, as well as the protoboard. You may be able to find a cheaper logic probe (relative to the bookstore one) online, or you can just use a multimeter, but we advise against getting small or used protoboards.
  - You'll also be completing reports for each lab. These constitute a theory section, deliverables (diagrams/results), discussion, and exam practice questions. They are somewhat of a fusion between the kind of lab reports you might expect to see in a W course and a regular homework assignment.
-