SACRAMENTO
STATE

MARIO PALACIOS
LAB COURSE CpE 185 – SECTION 03
MONDAY (6:30PM – 9:10PM)
LAB 05: PLC LAB
INSTRUCTOR: SEAN KENNEDY

Introduction:

I will be demoing all of Lab 05.

A Programmable Logic Controller (PLC) is basically a digital computer that can be used in manufacturing process, like assembly lines. It makes any activity that requires a high amount of reliability control with ease of controlling throughout its use.

Ladder Logic and Working Industrial Application

Description: We will need to finish the ladder logic for a Logical AND, OR, NAND, and NOR. Afterwards we need to think of an industrial application and create the ladder logic for it.

Engineering Data:

AND

OR

NOR

NAND

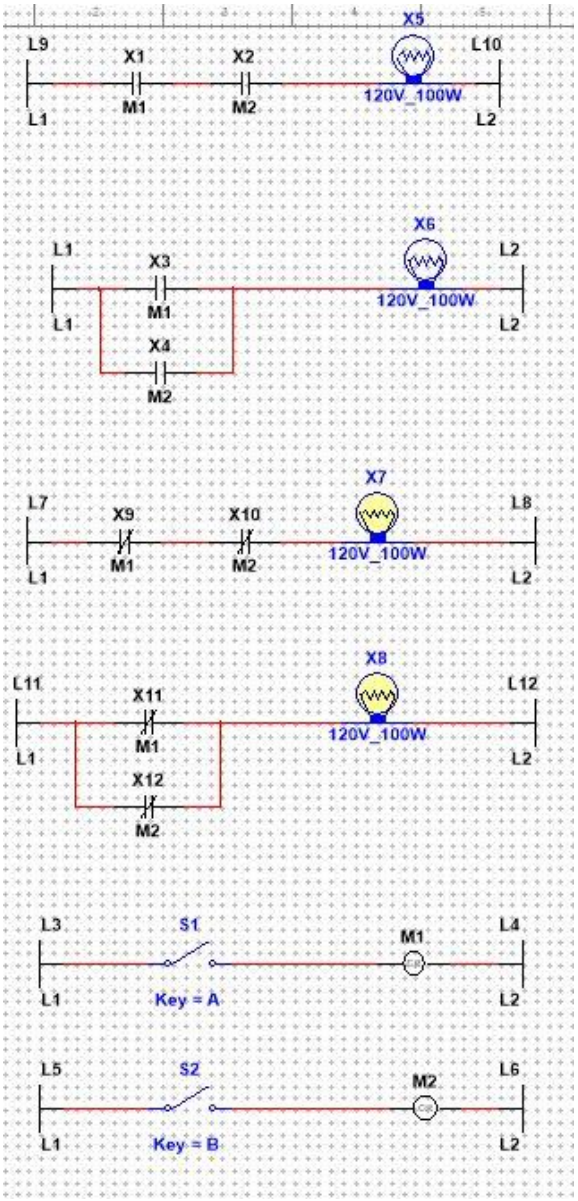

Figure 1. All Logic Ladder OUTPUTS for INPUT of 00

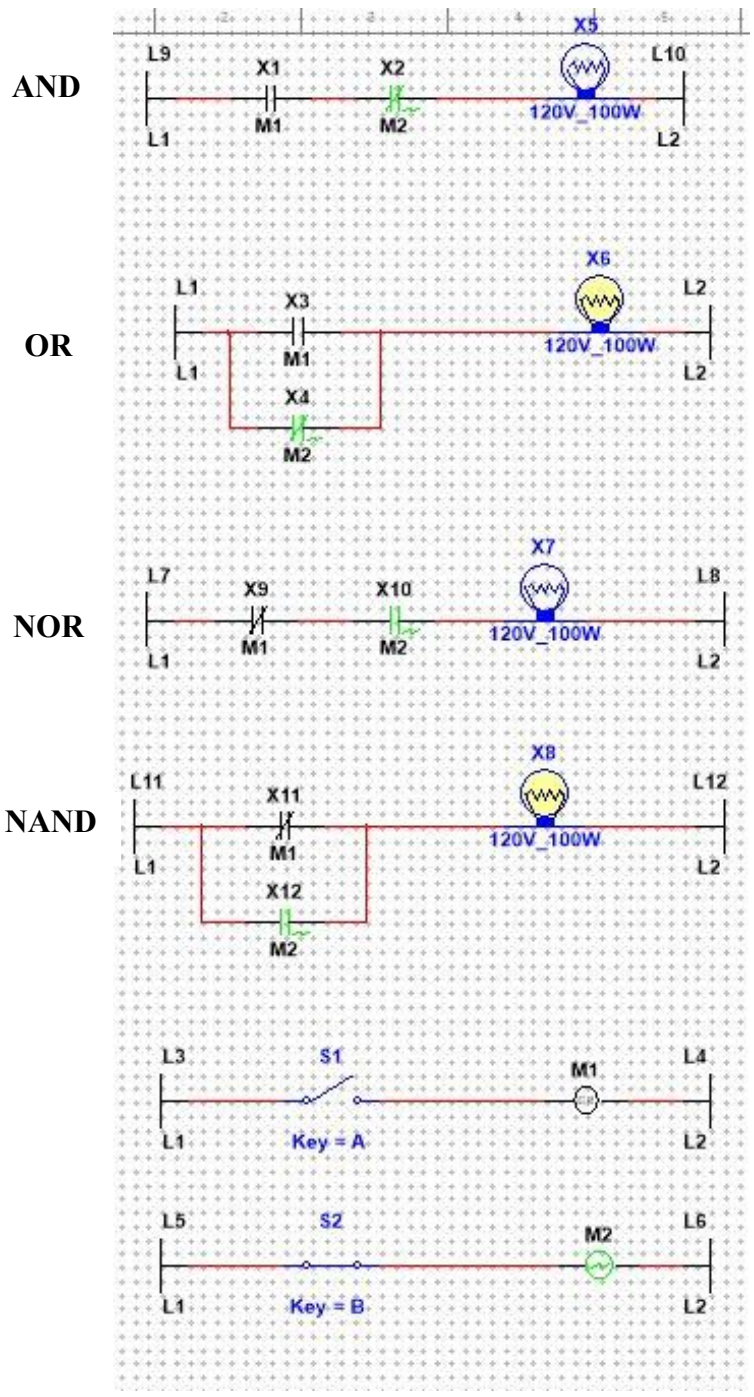

Figure 2. All Logic Ladder OUTPUTS for INPUT 01

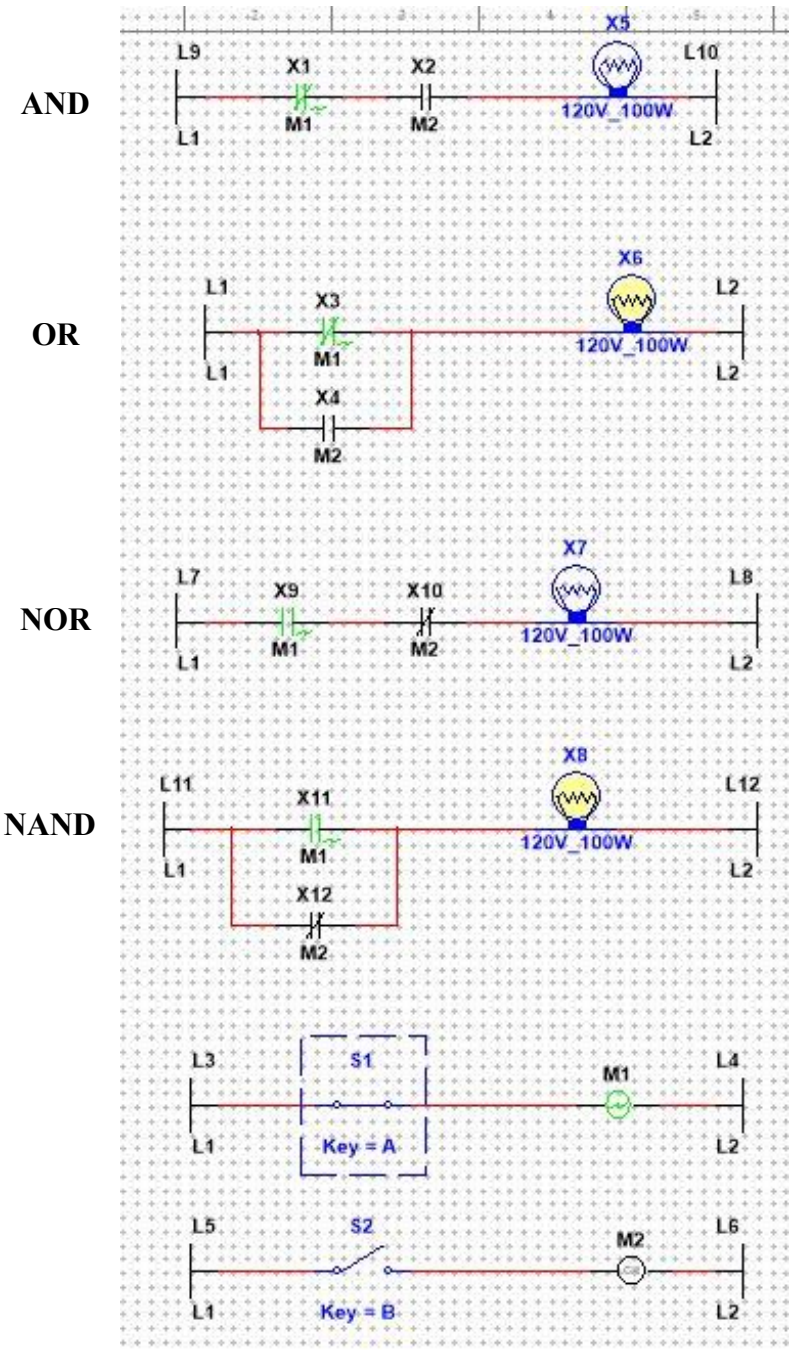

Figure 3. All Logic Ladder OUTPUTS for INPUT 10

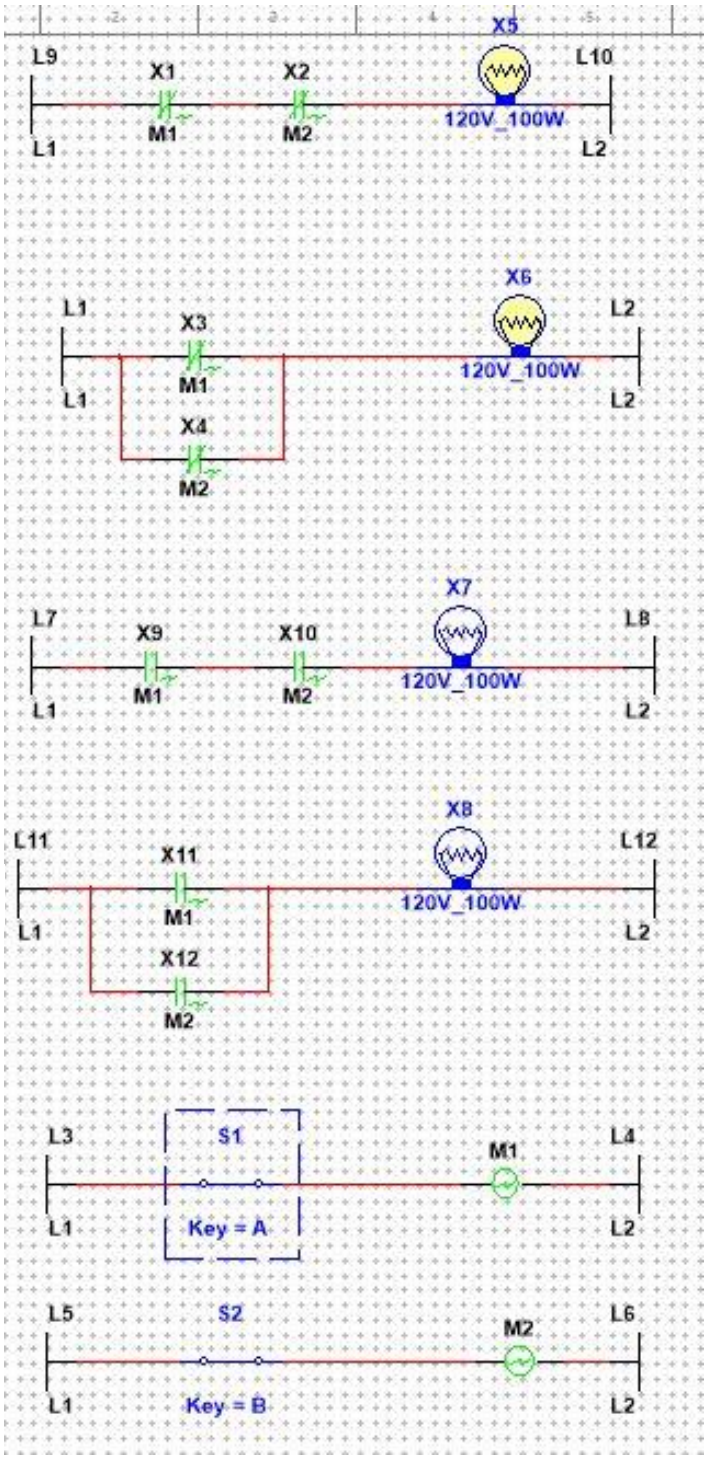

Figure 4. All Logic Ladder OUTPUT for INPUT 11

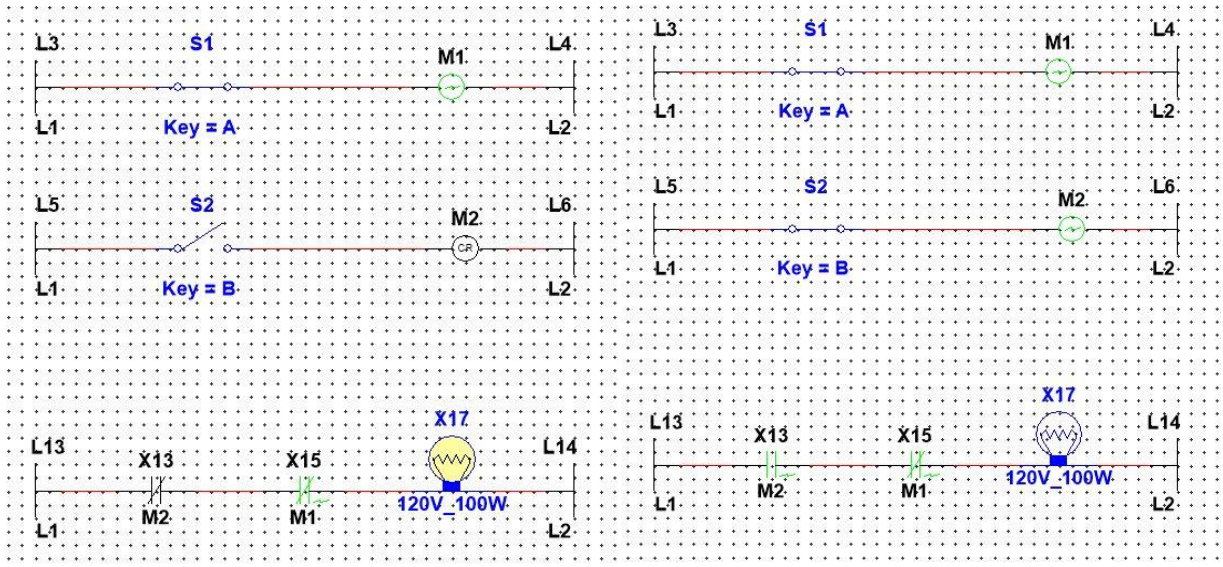

Figure 5. PLC Industrial Application

Conclusion: For my industrial application I thought of an assembly line where a kill switch is built in the machine that can be located anywhere else on the machine. Key A turns on the machine and in case of emergency Key B can be turned on and completely kill the machine.

Final Conclusion:

Overall PLC's are an essential part of creating a machine and can be applied to designing a project, because it makes you think of how your design should logically work. I have gained a better understanding how they work and will figure out how to apply this knowledge to future projects.