



جامعة الموصل / كلية الهندسة
قسم الهندسة الكهربائية

Subject Title: Programmable Logic Controller

Subject Code: EEC3

Instructor : Fawaz Yaseen Abdullah

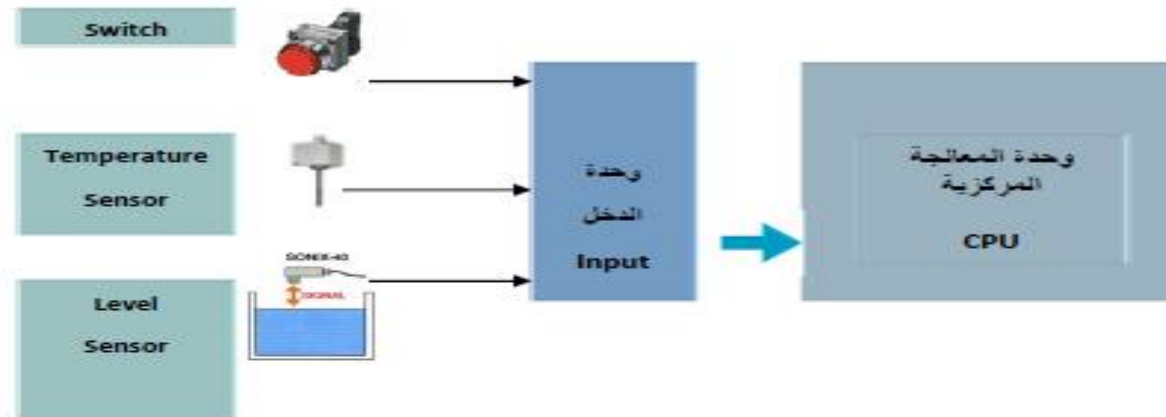
Course Description (15 weeks) or Outlines

- Introduction to PLCs
 - PLC basics
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- PLC Addressing and Basic Instructions
 - Basic Ladder Logic Programming
 - Programming word level logic instructions, Relation of digital gate logic to contact/coil logic, Relay logic, Relay Sequencers
 - PLC Timer Functions
 - ladder diagram elements. Instructions: Relay type instructions, Instruction addressing, Branch Instructions, Internal Relay Instructions, Programming
 - Data Handling and Program Control Flow Instructions
 - Shift and Sequencer Instructions
 - PLC I/O Module Types and and PLC Trainer Configuration

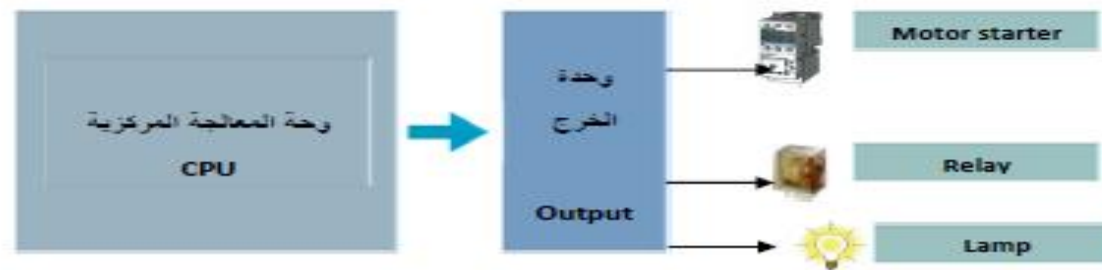
Textbook or References

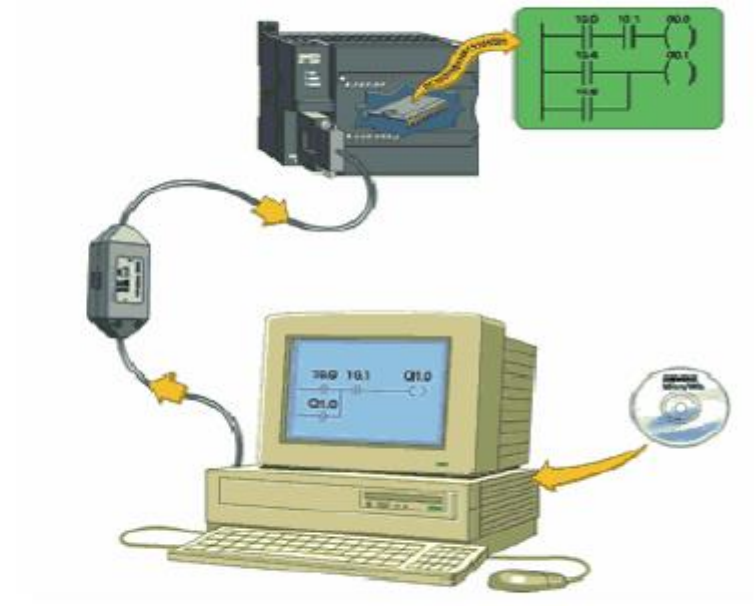
- 1- **The 8088 and 8086 Microprocessors: Programming, Interfacing, Software, Hardware, and Applications (4th Edition)** by [Walter A. Triebel](#) , [Avtar Singh](#) ; Wiley (2016), ISBN-13: 978-0130930811.
- 2- **The Intel Microprocessors (8th Edition)** by [Barry B. Brey](#). Hart McGraw Hill (2011), ISBN-13: 978-0135026458
- 3- **Microprocessors & Microcontrollers (first Edition 2009)** by [A.P.Godse](#), [D.A.Godse](#) , Technical Publications, 2009.

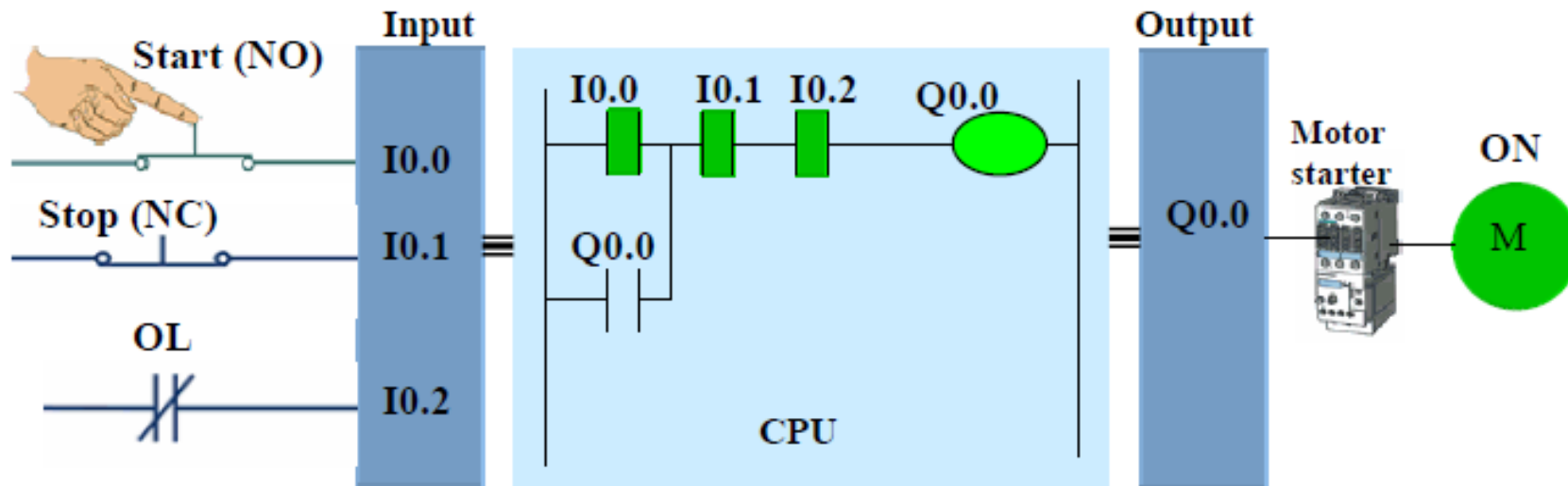
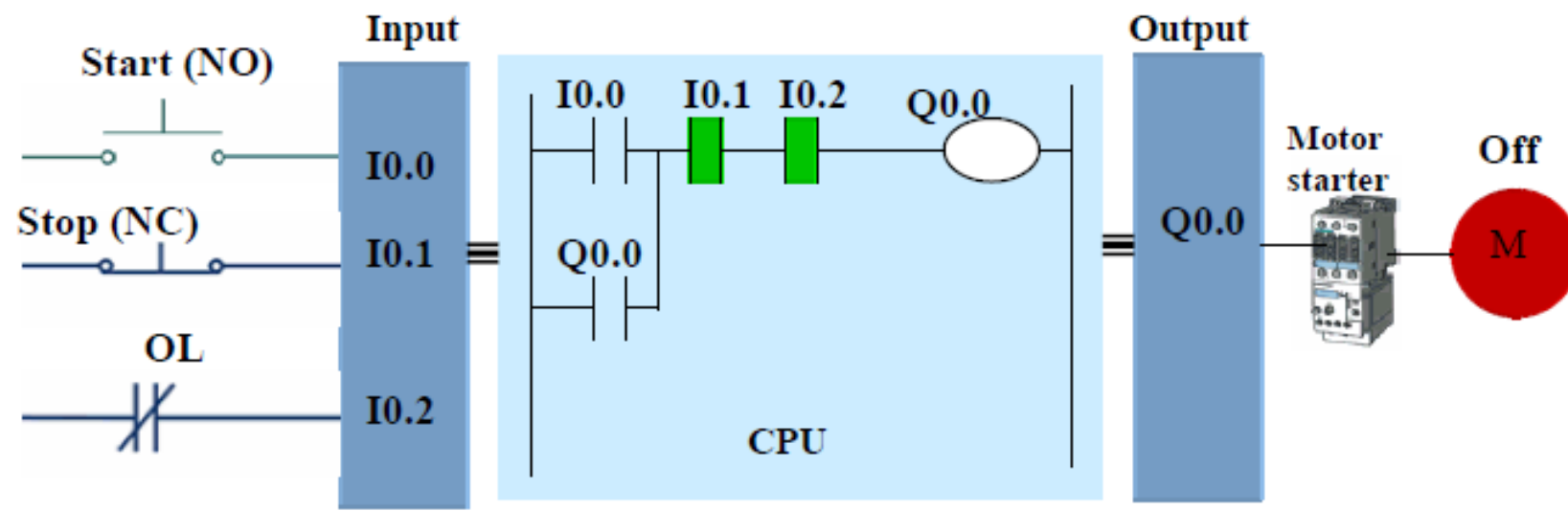
Input Module

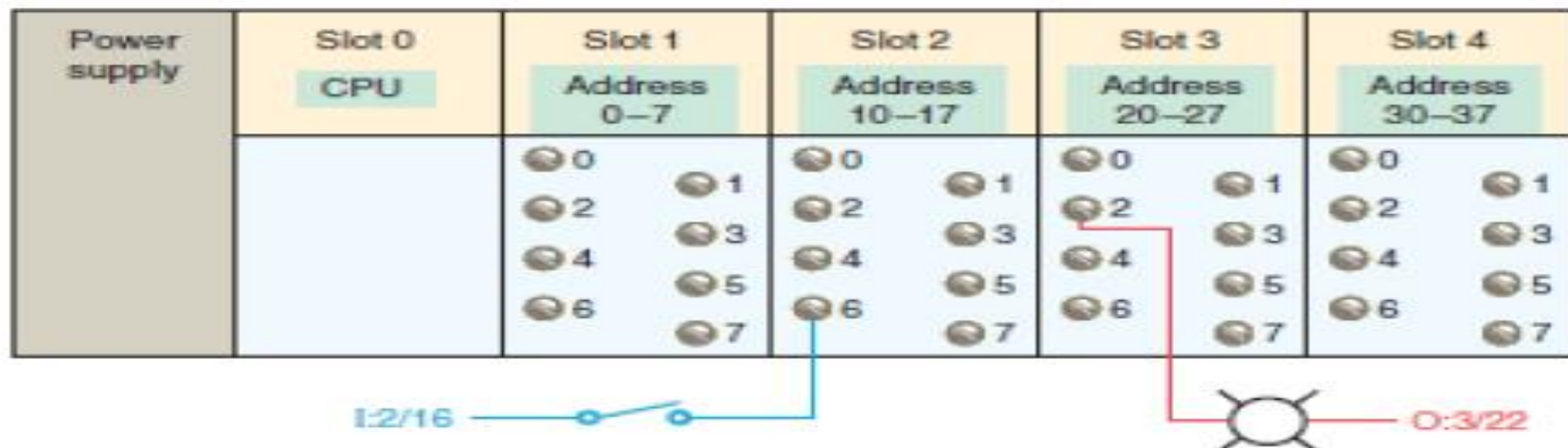


Output Module









I/O module screw terminal number	Slot number and address			
	1	2	3	4
0	0	10	20	30
1	1	11	21	31
2	2	12	22	32
3	3	13	23	33
4	4	14	24	34
5	5	15	25	35
6	6	16	26	36
7	7	17	27	37

Addressing of I/O Modules using the octal numbering system

Refernces:

1. Gary Dunning, “Introduction to Programmable Logic Controllers”, Thomson, 2nd Edition
2. John R. Hackworth, Frederick D., Hackworth Jr., “Programmable Logic Controllers Programming Methods and Applications”, PHI Publishers
3. L. A. Bryan. A. Bryan, “Programmable Controllers: **THEORY AND IMPLEMENTATION**”, Second Edition

Useful Links

Description	Links
Video Lecture	https://slideplayer.com/slide/6883137//