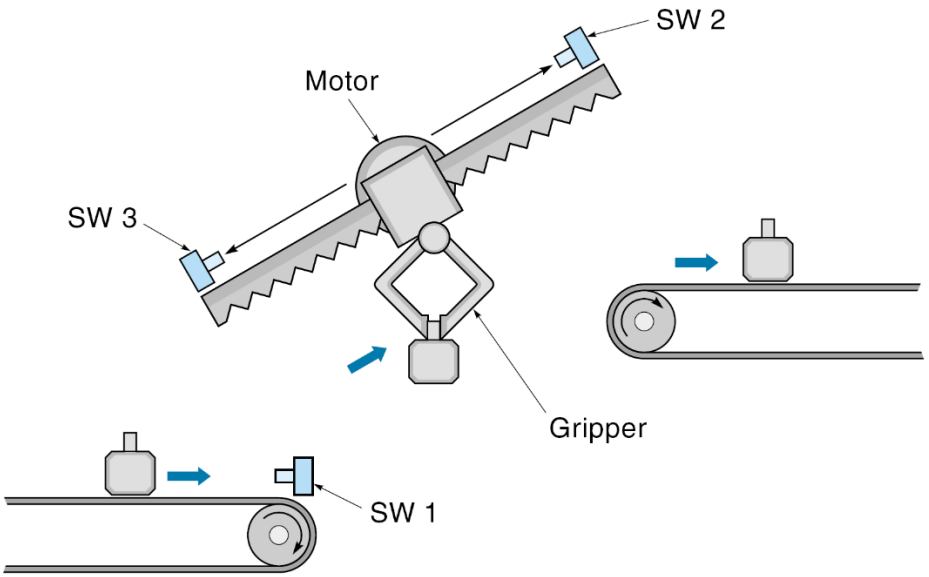
A. Requirement

Consider a pick and place robot:



I/O signals are given follows:

Conveyor for loading objects in	CI	CI = 1: the conveyor works
		CI = 0: the conveyor stops
Conveyor for loading objects out	CO	CO = 1: the conveyor works
		CO = 0: the conveyor stops
Motor moving the gripper	MD, MU	MD = 1: the gripper goes down
		MU = 1: the gripper goes down
		MD = MU = 0: the gripper stays still
Gripper	G	G = 1: clamp the object
		G = 0: unclamp the object
Start button	START	NO contact
Stop button	STOP	NC contact

Requirement:

a. (L.O.5.2) Implement a control circuit to repeat a 5-step sequence as follows:

When the Start button is pressed

- Step 1: the input conveyor works, supplying objects.
- Step 2: When SW1 is on, the gripper goes down.
- Step 3: When SW3 is on, the gripper clamps the object and wait for 1 second
- Step 4: After 1 second, the gripper goes up.
- Step 5: When SW2 is on, the gripper unclamps the object and wait for 1 second. After 1 second, repeat Step 1.

The system operation stops immediately when the Stop button is pressed.

b. (L.O.5.3) Draw a power circuit for the system.

The report is documented in A4 pages with

- File name: GHW_2_<Group name>
- File format: *.pdf
- Font style: Times New Roman
- Font size: 12pt
- Margin: left: 3cm, right: 2cm, top: 3cm, bottom: 3cm