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# programmable Logic Controller

**Implementation Of On-Delay Timer-**

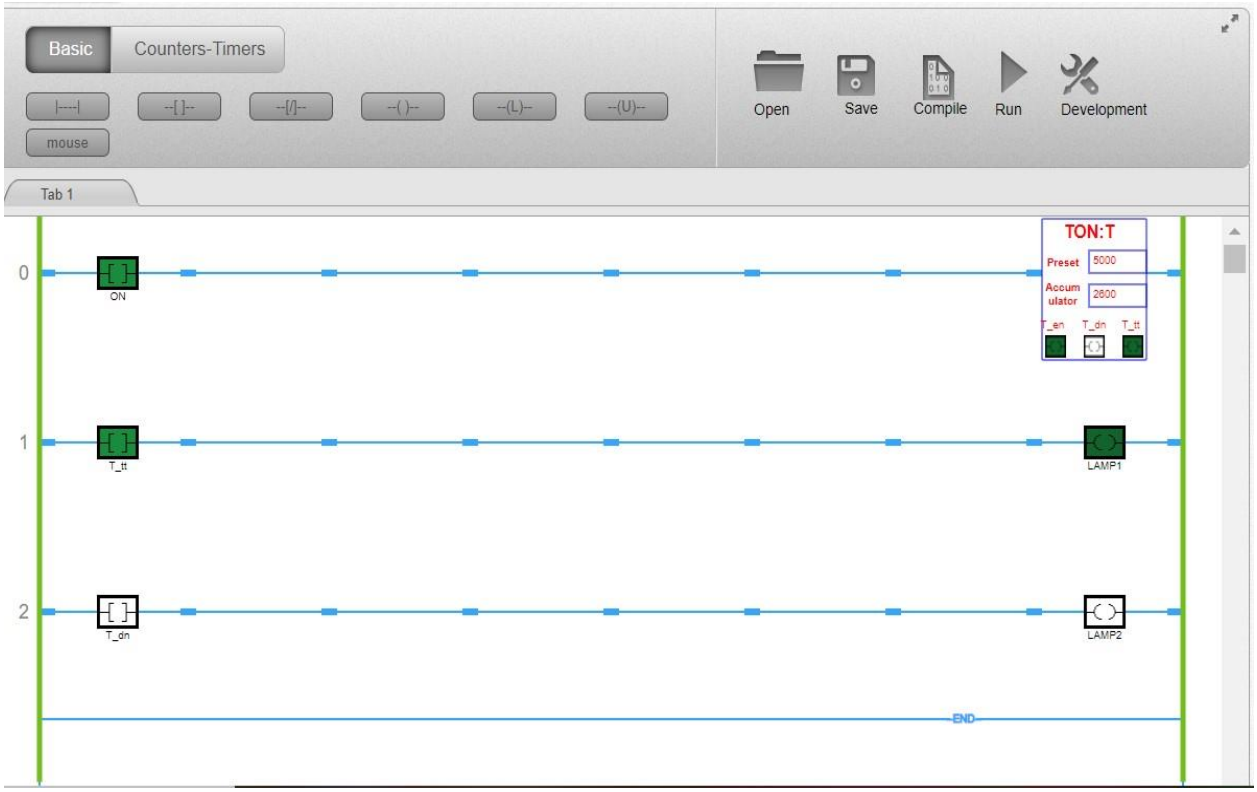
**Aim** :

*To develop an application using On-Delay timer.*

**Objective:**

1. *Study the timing diagram of On Delay Timer*
2. *Simulate ON Delay Timer*

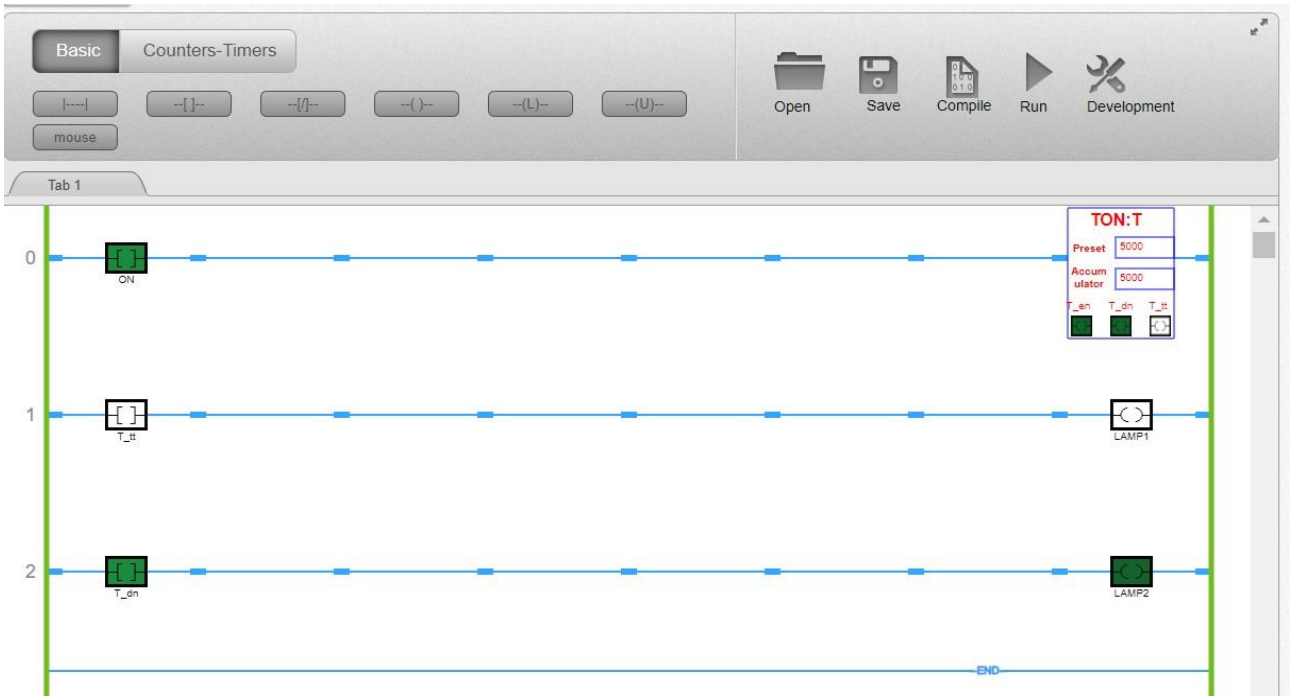
***ON timer:*** *Preset value = 5000 Accumulator value = 2600<5000*




## ON timer:

*Preset value = 5000*

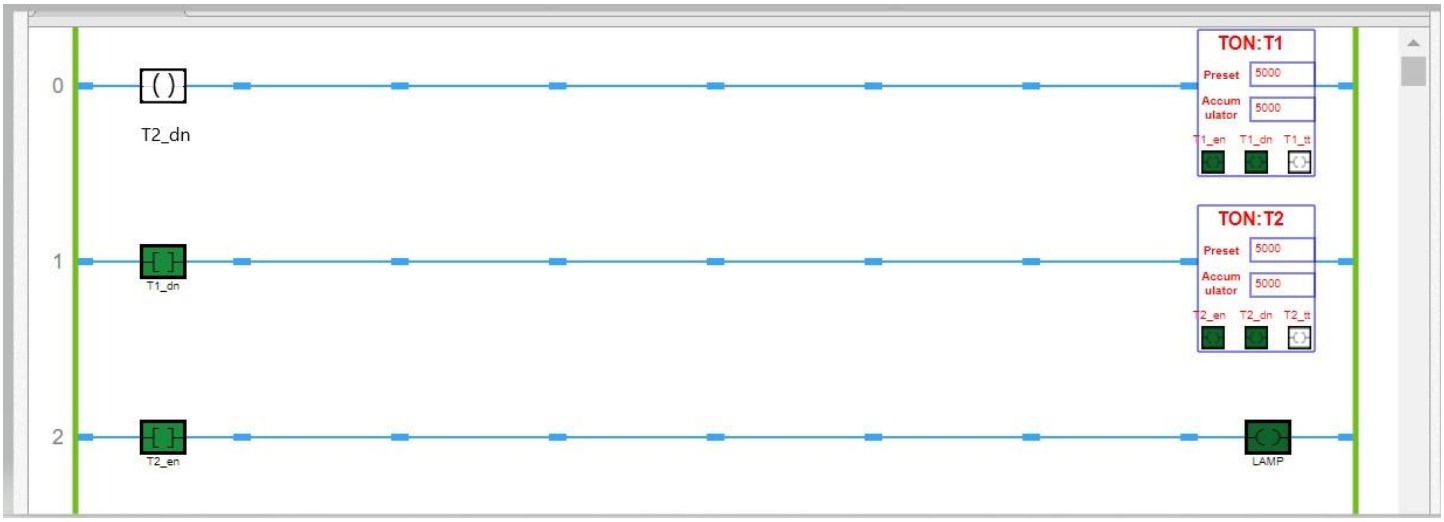
*Accumulator value = 5000*




*After the Start is toggled, Lamp1 and Lamp2 are ON. This implies the Timer_1 is enabled and its timer timing bit is activated. After the delay, Lamp1 and Lamp3 are ON and Lamp_2 will be OFF.*

## Application of ON timer:

*Flashing On Off Light / Interlocking used to turn motor ON for 5000ms then OFF for 5000ms*




## Conclusion :

- *An on-delay timer (TON) is used to start momentary pulses for a set period of time.*
- *This includes three status bits which are: EN, TT, DN.*

*Where:*

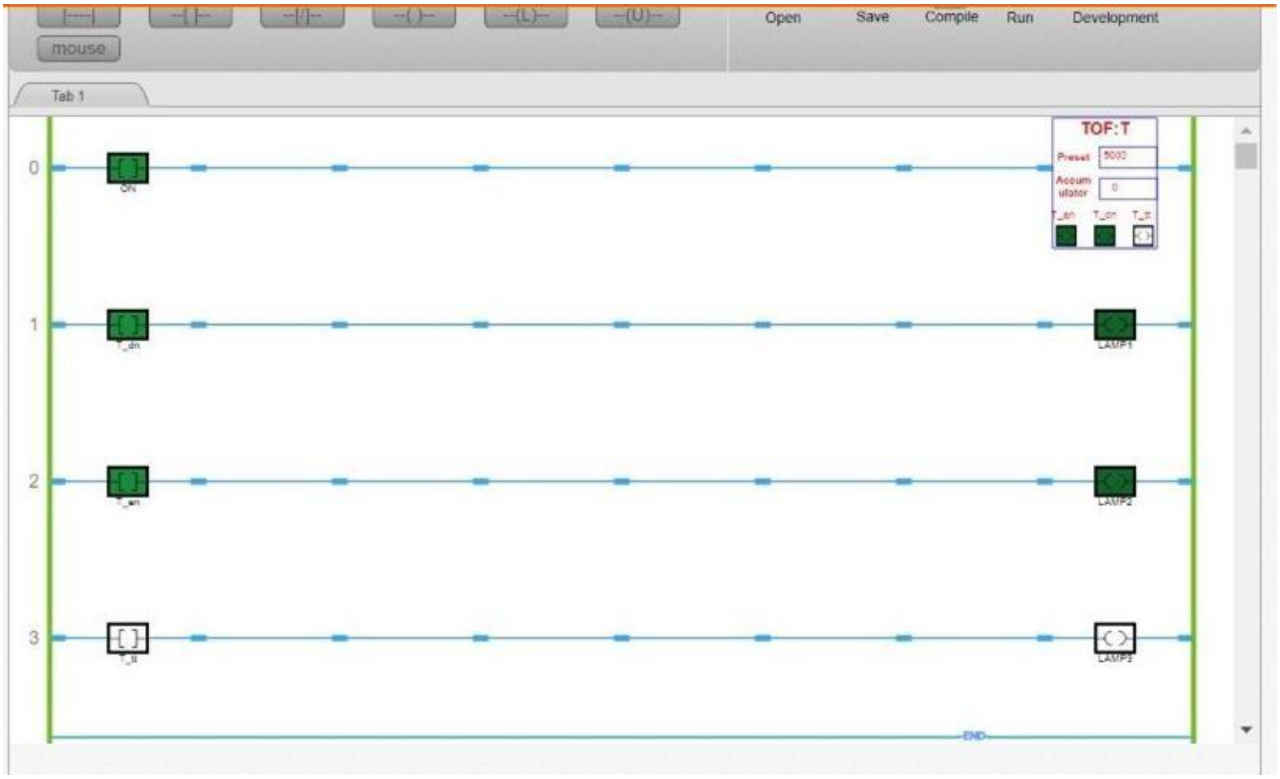
- *Enable (EN) Bit: - The enable bit indicates the TON instruction is enabled*
- *Timer-Timing (TT) Bit: - The timing bit indicates that a timing operation is in process.*
- *Done (DN) Bit: - The done bit changes state whenever the accumulated value reaches the preset value.*

*Accumulator (ACC) Bit: - The accumulated value specifies the number of milliseconds that have elapsed since the TON instruction was enabled.*

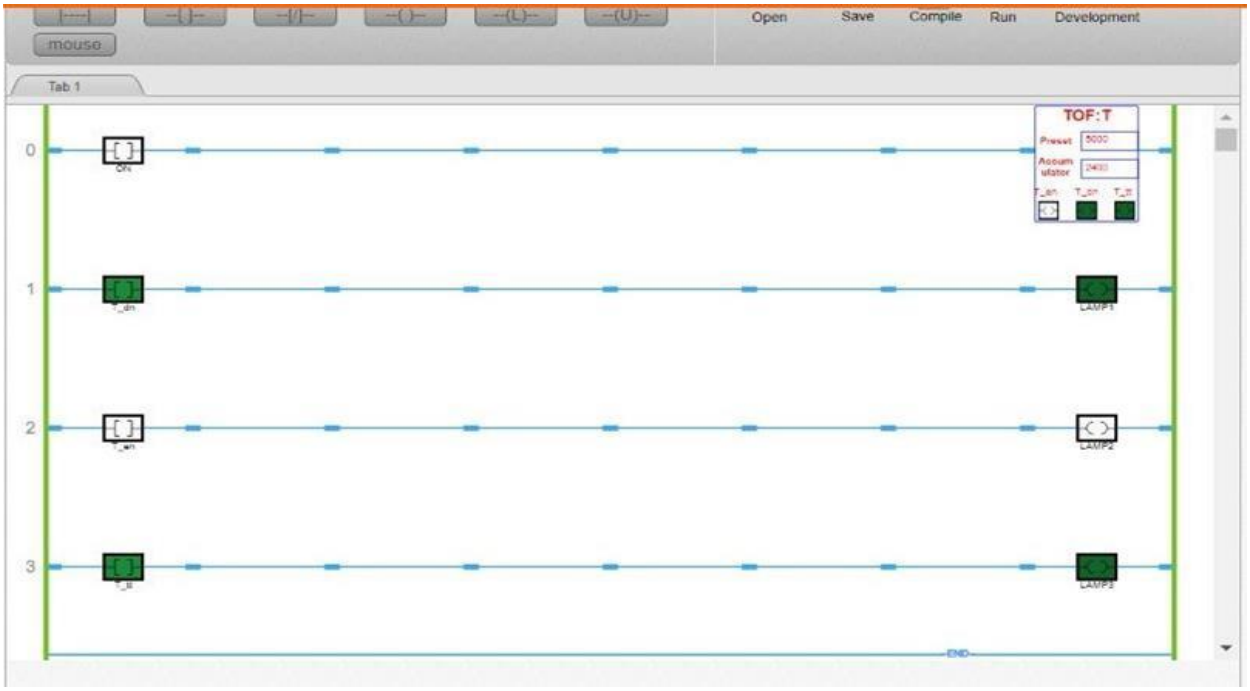
- *Preset (PRE) Bit: - The preset value specifies the value (1msec units) which the accumulated value must reach before the instruction sets the .DN bit.*
- *PLC Timers and Counters are frequently used in industries*

**OFF DELAY TIMERS:-**

*1)OFF Delay Timer: Preset=5000 Accumulator = 0*




*2)OFF Delay Timer Preset=5000 Accumulator= 2400*




# Result:-

*1)When start switch is pressed, Timer Enable bit (EN) is turned ON which tells about the status of TIMER ON/OFF condition and also tells about DN bit.*
*2)When the switch is turned off the EN and timer timing bit is turned off to show timer status and timer timing bit turned ON to show the status of timer is running. Time done bit maintain its previous state.*

# Conclusion:-

*An TOFF Delay timer has three status bits which are Timer-Timing (TT), Enable bit (EN) and Done(DN) bits.*
*The off-delay timer operates such that when the rung containing the timer is false, the timed output becomes true after sometime which will deactivate the output connected. Hence, the timer is said to have an off*

*delay. The length of the time delay can be adjusted by changing the preset value.*