

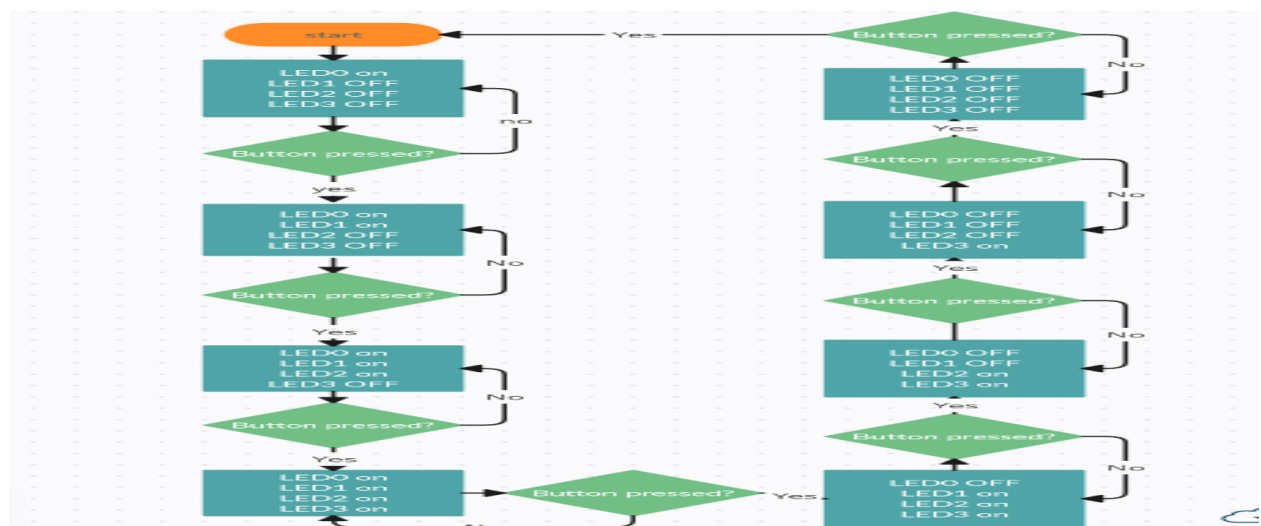
Project Title:- LED_Sequence V2.0

Developer name:-Moustafa Abdelrahim

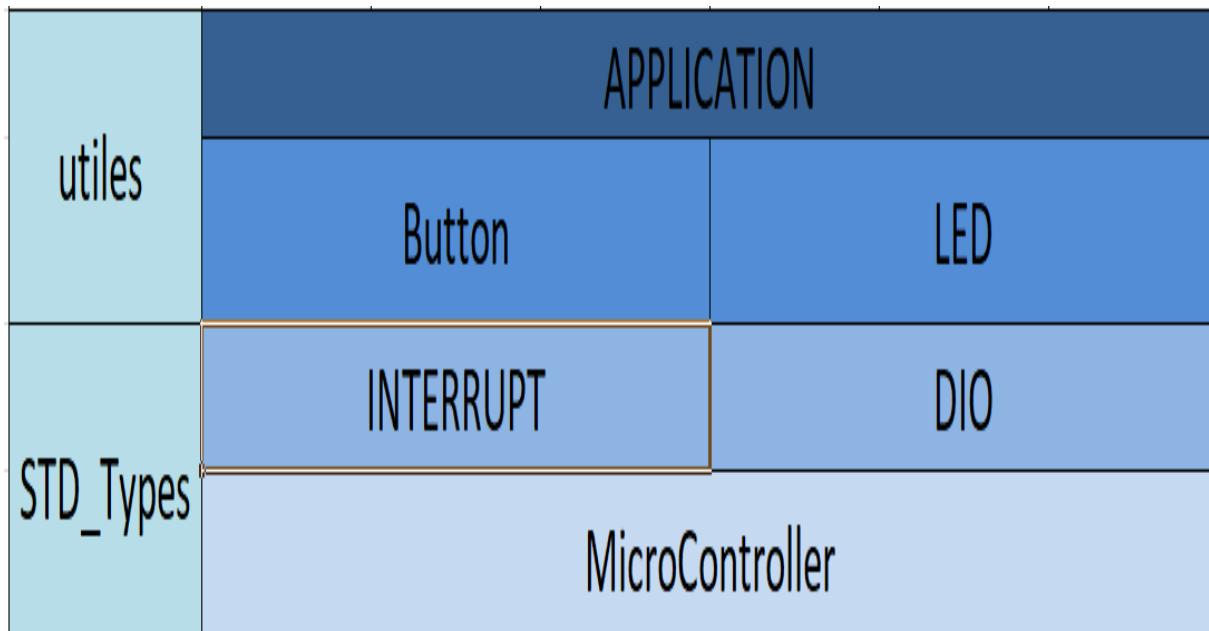
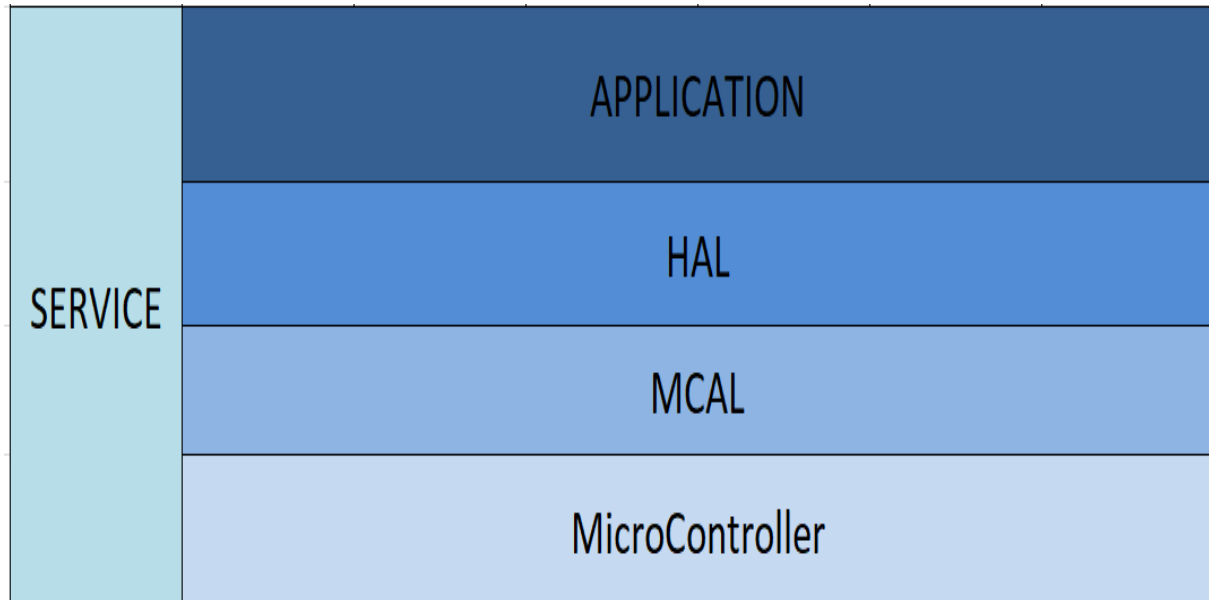
Project Description:- it's a LED sequence program that follows the next sequence:-

1. Initially (OFF, OFF, OFF, OFF)
2. Use external interrupt
3. Press 1 (ON, OFF, OFF, OFF)
4. Press 2 (ON, ON, OFF, OFF)
5. Press 3 (ON, ON, ON, OFF)
6. Press 4 (ON, ON, ON, ON)
7. Press 5 (OFF, ON, ON, ON)
8. Press 6 (OFF, OFF, ON, ON)
9. Press 7 (OFF, OFF, OFF, ON)
10. Press 8 (OFF, OFF, OFF, OFF)
11. Press 9 (ON, OFF, OFF, OFF)

Project flow chart:-



Layered architecture :-



Program APIS:-

- 1) `DIO_ERROR_TYPE DIO_INITPIN(DIO_PIN_TYPE PIN, DIO_PINSTATUS_TYPE STATUS);`
- 2) `DIO_ERROR_TYPE DIO_WRITEPIN(DIO_PIN_TYPE PIN, DIO_VOLTAGE_TYPE VOLTAGE);`
- 3) `DIO_ERROR_TYPE DIO_READPIN(DIO_PIN_TYPE PIN, DIO_VOLTAGE_TYPE* VOLT);`
- 4) `LED_ERROR_TYPE LED_INIT(DIO_PIN_TYPE PIN);`
- 5) `LED_ERROR_TYPE LED_ON(DIO_PIN_TYPE PIN);`
- 6) `LED_ERROR_TYPE LED_OFF(DIO_PIN_TYPE PIN);`
- 7) `BUTTON_ERROR_TYPE Button_INIT(DIO_PIN_TYPE PIN);`
- 8) `BUTTON_ERROR_TYPE Button_read(DIO_PIN_TYPE PIN, DIO_VOLTAGE_TYPE*VOLT);`
- 9) `INTERRUPT_ERROR_TYPE EXI_Enable(EXInterruptSource_type interrupt);`
- 10) `INTERRUPT_ERROR_TYPE EXI_Disable (EXInterruptSource_type interrupt);`
- 11) `INTERRUPT_ERROR_TYPE EXI_TriggerEdge (EXInterruptSource_type interrupt, TriggerEdge_type edge);`
- 12) `INTERRUPT_ERROR_TYPE EXI_SetCallBack(EXInterruptSource_type interrupt, void (*pf_local)(void));`