
Q. 1: Single LED Blink

Task:
- Blink only the LED connected to PD12
- LED ON time: 1 second
- LED OFF time: 1 second

Constraints:
- Modify only led_on() and led_off() functions
- led_init() must remain unchanged

Q. 2: Alternate LED Blink

Task:
- Turn ON PD12 and PD14 together
- Turn OFF PD13 and PD15
- After 1 second, reverse the pattern

Expected Pattern:

PD12	PD13	PD14	PD15
ON	OFF	ON	OFF
OFF	ON	OFF	ON

Q. 3: Running LED (Left to Right)

Task:
- LEDs should turn ON one by one in the following order:
PD12 → PD13 → PD14 → PD15
- Each LED should remain ON for 500 ms
- Only one LED should be ON at a time

Requirement:
- Create a new function:
void led_run_lr(void);

Q. 4: Running LED (Right to Left)

Task:
- LEDs should turn ON one by one in the following order:
PD15 → PD14 → PD13 → PD12
- Each LED should remain ON for 500 ms

Hint:
- Reuse the logic from Q. 3

Q. 5: All LEDs Blink Together

Task:
- Turn ON all LEDs for 300 ms
- Turn OFF all LEDs for 300 ms
- Repeat continuously

Requirement:
- Use led_on() and led_off() functions

Q. 6: LED Toggle Without Using led_on() / led_off()

Task:
- Toggle all LEDs every 1 second

Restrictions:
- Do NOT use led_on() or led_off()
- Directly access GPIOD->ODR register

Hint:
- Use XOR (^) operation for toggling bits
