IOT Practical Questions

i. Write a program to Blink default Light Emitting Diode(LED) on Arduino board with the delay of 2 sec.

ii. Write a program to interface LEDs on pin no. 10,11,12,13 and blink alternatively at the delay of 1 sec.

iii. Write a program to run pattern(s) on LEDs connect at pins 10,11,12,13.
Pattern example :

on, off, off, off off, on off, off off, off, on, off off, off, off, on	on, on, off, off off, on, on, off off, off, on, on

iv. Write a program to interface buzzer with Arduino board to buzz on/off with the delay of 1sec.

v. Write a program to interface LED and Buzzer with Arduino board, so that buzzer is put on whenever LED is on and Buzzer is put off when LED is off.

vi. Write a program to interface Button and LED, so that LED blinks/glow when button is pressed.

vii. Write a program to interface Button, buzzer and LED, whenever the button is pressed the buzzer gives beep for 100ms and LED status is toggled.

viii. Write a program to interface LEDs at pins 10,11,12,13 and buttons at pins 7,8. When first time button at pin 7(increment button) is pressed first LED at pin 10 is switched on, when second time button is pressed the next LED at 11 is switched on. Similarly, when the button at pin 8 (decrement button) is pressed the LEDs are switched off sequentially.

ix. Write a program to interface LEDs at pins 10,11,12,13 and button at pins 7. The press of button changes the pattern of LED glow. (considering four patterns of LED glow)

x. Write a program to interface Light Dependent Resistor (LDR) and display the values read on the Serial monitor after delay of 2 seconds each.

xi. Write a program to interface Light Dependent Resistor (LDR) and LED with Arduino board. Whenever there is sufficient light falls on LDR the LED is off and when there is dark around LDR the LED is put on.

xii. Write a program to interface LEDs at any two PWM pins and exhibit LED fading.

xiii. Write a program to interface LED at PWM pin and LDR, in such a way that when the light intensity falling on LDR rises the LED glow should be reduced and after a threshold value the LED should be put off. (representing smart street light concept)

xiv. Write a program to interface LEDs at any two PWM pins and button, to exhibit LED fading at the click of button

xv. Write a program to interface any analog (pollution) sensor and display the values read on Serial monitor.

xvi. Write a program to interface LCD with Arduino board and display ‘Hello world’ on it
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xvii. Write a program to interface keypad with Arduino board and display the key pressed on Serial monitor.

xviii. Write a program to interface LCD and keypad with Arduino board and display the key pressed from keypad on LCD.

Write a program using LCD, LEDs, Buzzer and keypad to simulate a password based security lock system. User enters 4-digit password and if the password is correct buzzer and Green LED is put on. But if the password is incorrect Red LED is put on. After three incorrect attempts Red LED along with buzzer blinks continuously.
xxi. Write a program to interface LCD and DHT11, displaying the value read from sensor DHT on LCD.

xxii. Write a program to interface DHT11 or any other temperature sensor, DC Motor, to exhibit a real life situation that whenever temperature rises above a threshold value the DC motor(representing fan) starts and when temperature falls below a value, the motor stops.

xxiii. Write a program to interface LCD and Bluetooth module, to exhibit the values received from mobile handset via Bluetooth on LCD.

xxiv. Write a program to interface LED and Bluetooth module, to switch on the LED if 1 is passed through Bluetooth and switch off the LED if 0 is send.

xxv. Write a program to interface Relay and Bluetooth module to switch on AC load (5W LED bulb, table lamp, etc) connected to relay if 1 is passed through Bluetooth and switch off the AC Load if 0 is send.