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TE 19

Assignment 9

Aim: W an application Using Raspberry pi Beagleboard to control the operation of H/w simulated lift elevator Lift Elevator Simulation using Raspberry pi board

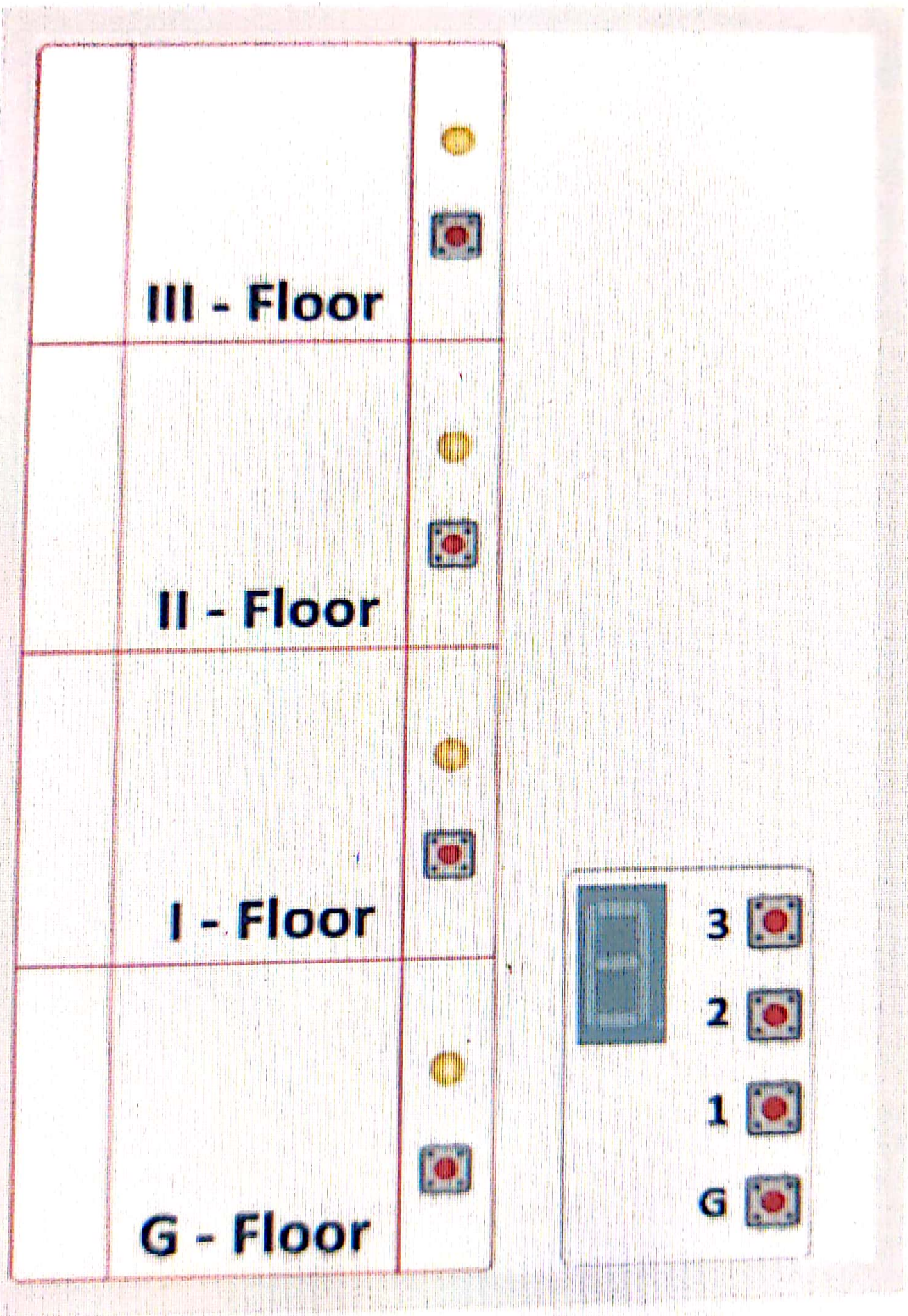
S/w: Raspbian OS (Idle)

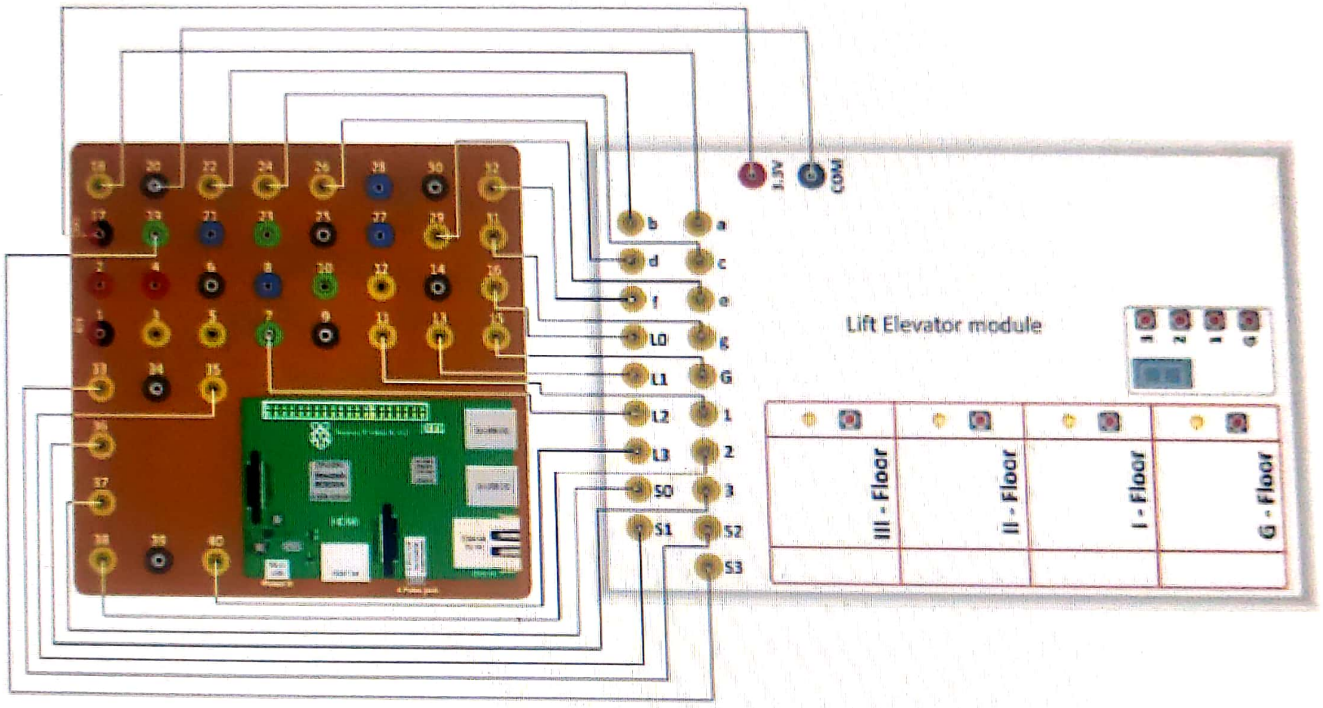
H/w: Raspberry pi Board module
Push button (8)
seven segment display (1)
LED (4)
Monitor

Theory

(1) Lift Elevator module has 2 parts
- Moving part inside the lift and stationary part outside the lift at each floors to call the lift
- In the simulation module we have considered 4 floors of building
- so the moving part contains 4 push buttons ~~for calling the lift~~ one button is for each floor
- The moving part contains a seven seg display indicating the current floor no while lift is moving.
- By pressing one of these buttons user indicate the destination floor

- At each floor the stationary part contains a button for calling the lift
- When lift is called by any floor the lift starts moving towards the particular floor when it reaches there door is opened
- In our module this situation is indicated by LED ON.
- In real life as soon as the entering users get finished the lift door is closed and the lift starts moving toward the destination
- In our module this situation is indicated by LED OFF





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② Safety Precaution

- First make all connection as given below
- power supply

③ Steps for assembling the circuit

-Connect all the pins of Lift elevatour module to pins of Raspberry pi module as shown in above figure

④ Procedure

- Write the prog as per given algorithm
- save programm
- Run code using run module

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5. Algorithm

- Import GPIO and time libraries
- Set GPIO mode as per Board
- Declare 4 push button pin of stationary part
- Declare 4 LED pin at each floor for detection of door close and open.
- Declare 4 push button pin of moving part
- Declare 7 pin of 7 segment display
- Set push button pin as i/p
- set 7 segment pin & LED pin as o/p
- Store the value of each digit of 7 segment display in variables
- In while loop if Button1 is pressed lift at Floor1 and LED of Floor1 get ON for 5 sec then goes off.
- Person enters in the lift and presses the push button of any one floor in the moving lift
- The 7 seg Display displays the floor no of the destination
- Observe the ~~two~~ o/p on LED and 7 segment display

Conclusion

Thus we have created an simulated lift elevator using Raspberry pi board.