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Assignment - 09

Aim - Write an application Raspberry
- Pi / Beagleboard to control
the operation of a hardware
simulated lift elevator.

Software - Raspbian as (IDLE)

Hardware modules -

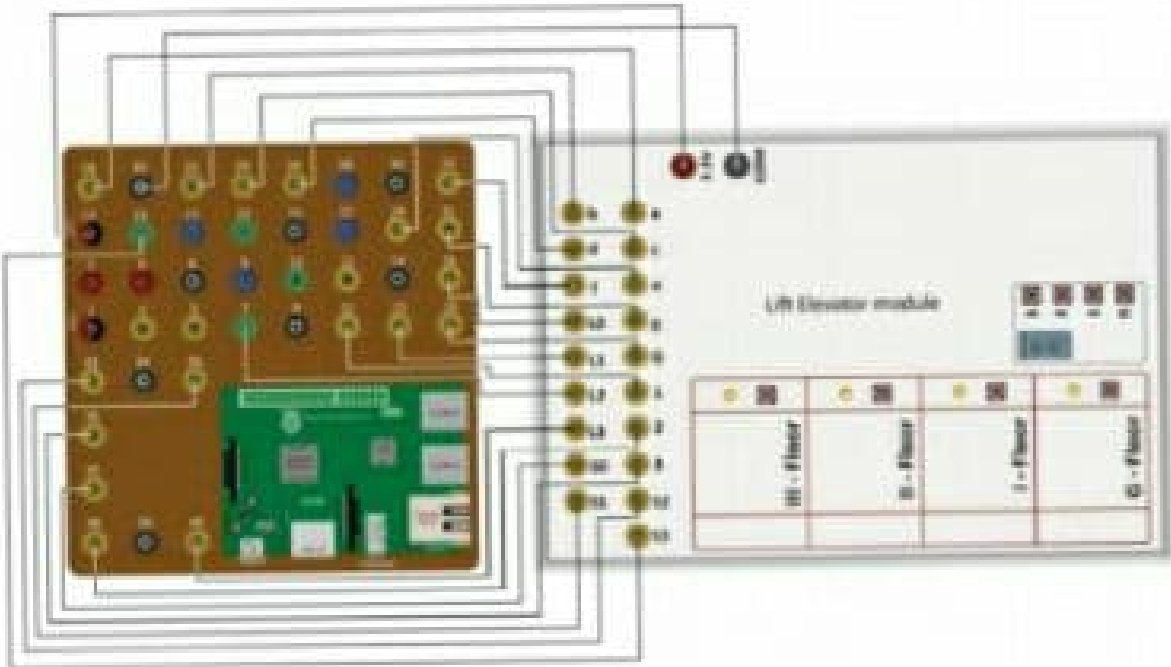
Raspberry Pi beagle
Push buttons (qty - 8)
Seven segment display
Leds (qty - 4)
Monitor

Safety Precaution →

First make all connections as
per steps given.
Power supply.

Procedure → Write the prog as algorithm
save the program.
Run code using Run module

Interface diagram:



Observation -

observe the output on LEDs and Seven Segment Display

Interlocking Lift Elevator module with Raspberry Pi-3

import RPi.GPIO as GPIO

import time

Floor Button = 34

Floor Button = 37

Floor Button = 37

Floor Button = 34

ES & IoT

Lift Button = 15

Lift Button = 11

Lift Button = 38

Lift Button = 36

GPIO Setup for the LEDs

Floor Led 0 = 16

Floor Led 1 = 13

Floor Led 2 = 7

Floor Led 3 = 40

GPIO Setup for the Seven segment display

Seg A Pin = 18

Seg B Pin = 21

Seg C Pin = 24

Seg D Pin = 26

Seg E Pin = 23

Seg F Pin = 32

Seg G Pin = 31

Gpio.Selmode (GPIO_BOARD)

Gpio.Selwairings (False)

Gpio.Setup (Floor Button 0, GPIO.IN)

Gpio.Setup (Floor Button 1, GPIO.IN)

Gpio.Setup (Floor Button 2, GPIO.IN)

Gpio.Setup (Floor Button 3, GPIO.IN)

Gpio.Setup (Lift Button 0, GPIO.IN)

Gpio.Setup (Lift Button 1, GPIO.IN)

Gpio.Setup (Lift Button 2, GPIO.IN)

Gpio.Setup (Lift Button 3, GPIO.IN)

Gpio.Setup (Floor led 0, GPIO.OUT) # Floor 1

Gpio.Setup (Floor led 1, GPIO.OUT) # Floor 2

Gpio.Setup (Floor led 2, GPIO.OUT) # Floor 3

Gpio.Setup (Floor led 3, GPIO.OUT) # Floor 4

Gpio.Setup (Seg A Pin, GPIO.OUT)

Es & IoT1

Gpio.Setup (Seg B Pin, GPIO

Gpio.Setup (Seg C Pin, GPIO.OUT)

Gpio.Setup (Seg D Pin, GPIO.OUT)

Gpio.Setup (Seg E Pin, GPIO.OUT)

Gpio.Setup (Seg F Pin, GPIO.OUT)

Gpio.Setup (Seg G Pin, GPIO.OUT)

digit 0 = [0,0,0,0,0,0]

digit 1 = [1,1,1,1,1,0]

digit 2 = [0,1,1,0,0,0]

digit 3 = [1,1,0,1,1,0]

digit 4 = [1,1,1,1,0,0]

while True:

if (GPIO.input (Floor Button 0) == True):
GPIO.output (Floor led 0, 1)

Print "0"

digdisp (digit 0)

time.sleep (1)

GPIO.output (Floor led 0, 0)

time.sleep (3)

while True:

if (GPIO.input (Lift Button 1) == True):

Print 'floor ONE'

digdisp (digit 0)

time.sleep (1)

digdisp (digit 1)

time.sleep (2)

break