CSE-461

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LAB Report – 01

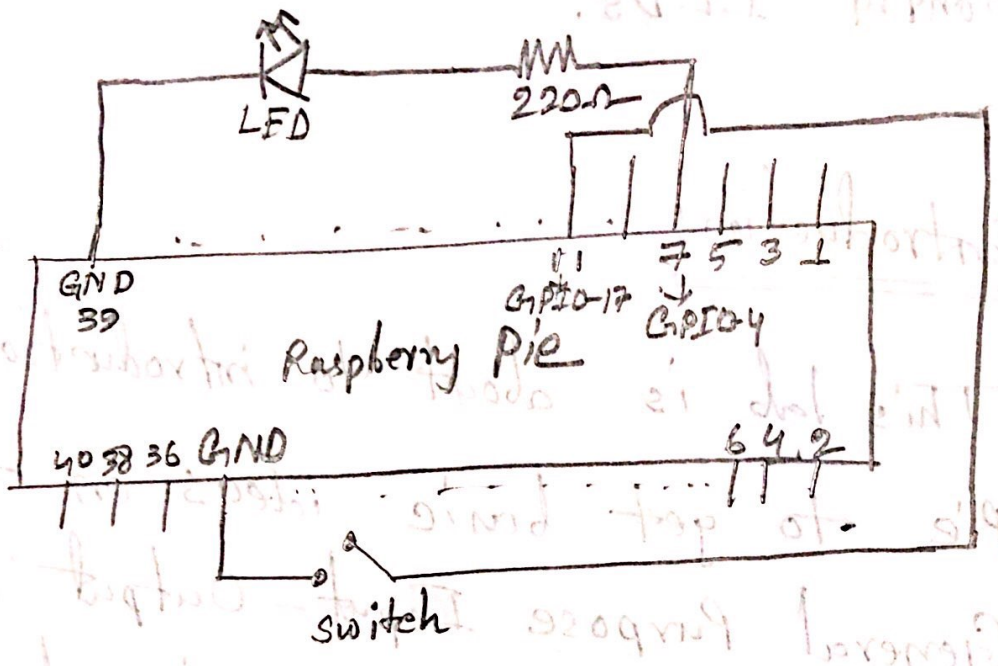
Group: 02

Title: Introduction to the Raspberry Pie GPIO pins and using push buttons to contrd LEDs.

Introduction:

This lab is about to introduction Raspberry Pie to get basic ideas on the General Purpose Input-Output (GPIO) pins. Here we got the descriptions of other pins like UART, I2C, SPI which works depending on sensor or interface we are about. This Raspberry Pie has 40 pins including power supply and ground. In this lab we have used Raspberry Pie to turon on/off LED using a push button.

Circuit Diagram:



Results and Discussion:

While Running and coding ~~in~~ in the Raspberry Pie it was ~~bit slow~~ working bit slow because of its less powerful cpu. But after completing the code and running it, we fall under some technical difficulties like jumper wires, After reassambling the circuit ~~correct~~ many time and changing ~~the~~ in the

code it worked bit. We think there is some technichal issues on the Raspberry Pie module.

Question Answer:

(1) If we do not use 220Ω resistor in series with the LED, the LED could burnt out or damaged because of higher current flow through this low consumption device.

(2) As to run the circuit we had to code it in the Raspberry Pie, so to give ~~i~~ the signal of pressing button and not pressing the button has to be generated and has to feed it to Raspberry Pie to ~~to~~ turn on the light on per command. That is why the push button was not directly connected with LED.

③ If we replace 220Ω by 1kΩ in that case the LED will glow lesser or it will dimmed down so much that it ~~can~~ may not be able observe the LED is on or off. Because Raspberry pie will pass a signal to the circuit that may not that much powerful to supprers the ressistence of 1kΩ. or even if it suppress the 1kΩ, the current flow or voltage difference will be too much low to turn on the LED.

Conclusion:

From this lab, we have gotten idea to how operate Rasperry Pie and how code and run it using the given electronics components by wiring the pins.