**Virtual Pi2Go Programming: Logic and Control**



**AIM:** This exercise sheet provides additional programs using logic, if statements and while loops for you to write for your virtual Pi2Go. It assumes familiarity with worksheets 1-10.

**Exercise 1**: Write a program that will light up the front LEDs if there is an obstacle in front of the Pi2Go, and the left side LEDs if there is an obstacle on the left and the right side LEDs if there is an obstacle on the right.

**Exercise 2**:  Write a program that behaves as follows: When the switch is pressed the program starts printing out the value from the ultrasonic distance sensor. When the switch is pressed again it stops printing the distance out.

**HINT:** You may to use the time module to insert a small delay after the switch is pressed for the first time.

**Exercise 3**: Extend your program from exercise 1 so it keeps changing which LEDs light up as obstacles appear and disappear.

**Exercise 4:** Write a program that will make the Pi2Go reverse if the switch is pressed and there is an obstacle in front of it. Once the obstacle disappears it should stop reversing.

**Exercise 5**: Write a program that will make the Pi2Go move forward if the switch is pressed and there is no obstacle in front of it. Once an obstacle appears it should stop moving.

**Exercise 6**: Adapt your programs from exercises 4 and 5 so that the robot reverses until there is no obstacle and then moves forward until there is an obstacle and keeps repeating this until the switch is released.



University of Liverpool, 2019

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