**Virtual Pi2Go Programming: WS9 and Ex9 Sample Answers and Troubleshooting**

**WS9**

**Sample Answer 1:** The program prints “Waiting” until the switch is pressed. Then it flashes its LEDs.

**Sample Answer 2:** Notice that three while loops are needed - wait for the switch to be switched on, wait for the switch to be switched off and then wait for the switch to be switched on again. Students may need some help thinking through this.

import simclient.simrobot as pi2go, time

pi2go.init()

while not (pi2go.getSwitch()):

print("Waiting")

pi2go.setAllLEDs(4095, 4095, 4095)

while (pi2go.getSwitch()):

print(“Waiting for Switch Off”)

while not (pi2go.getSwitch()):

print(“Still Waiting”)

pi2go.setAllLEDs(0, 0, 0)

**Sample Answer 3:** pi2go.getSwitch() or pi2go.irCentre()

**Program:**

import simclient.simrobot as pi2go, time

pi2go.init()

if (pi2go.getSwitch() or pi2go.irCentre()):

pi2go.reverse(10)

while (pi2go.getSwitch()):

print(“Waiting for Switch Off”)

while not (pi2go.getSwitch()):

print(“Still Waiting”)

pi2go.stop()

**Sample Answer 4:** pi2go.getSwitch() and not (pi2go.irCentre())

**Program:**

import simclient.simrobot as pi2go, time

pi2go.init()

if (pi2go.getSwitch() and not (pi2go.irCentre())):

pi2go.forward(10)

while (pi2go.getSwitch()):

print(“Waiting for Switch Off”)

while not (pi2go.getSwitch()):

print(“Still Waiting”)

pi2go.stop()

**Ex9**

**Sample Answer Exercise 1:**

**Program:**

import simclient.simrobot as pi2go

pi2go.init()

if (pi2go.irCentre()):

pi2go.setLED(0, 1000, 1000, 1000)

if (pi2go.irLeft()):

pi2go.setLED(3, 1000, 1000, 1000)

if (pi2go.irRight()):

pi2go.setLED(1, 1000, 1000, 1000)

**Sample Answer Exercise 2:**

import simclient.simrobot as pi2go

import time

pi2go.init()

while not (pi2go.getSwitch()):

print("Press Switch Please")

time.sleep(2)

while not (pi2go.getSwitch()):

print(pi2go.getDistance())

**Sample Answer Exercise 3:**

import simclient.simrobot as pi2go

pi2go.init()

while not (pi2go.getSwitch()):

if (pi2go.irCentre()):

pi2go.setLED(0, 1000, 1000, 1000)

else:

pi2go.setLED(0, 0, 0, 0)

if (pi2go.irLeft()):

pi2go.setLED(3, 1000, 1000, 1000)

else:

pi2go.setLED(3, 0, 0, 0)

if (pi2go.irRight()):

pi2go.setLED(1, 1000, 1000, 1000)

else:

pi2go.setLED(1, 0, 0, 0)

**Sample Answer Exercise 4:**

import simclient.simrobot as pi2go

pi2go.init()

if (pi2go.getSwitch()):

while (pi2go.irCentre()):

pi2go.reverse(10)

pi2go.stop()

**Sample Answer Exercise 5:**

import simclient.simrobot as pi2go

pi2go.init()

if (pi2go.getSwitch()):

while not (pi2go.irCentre()):

pi2go.forward(10)

pi2go.stop()

**Sample Answer Exercise 6:**

import simclient.simrobot as pi2go

pi2go.init()

while (pi2go.getSwitch()):

if not (pi2go.irCentre()):

pi2go.forward(10)

else:

pi2go.reverse(10)

pi2go.stop()



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