**Virtual Initio Programming: WS15 Sample Answers and Trouble Shooting**

**WS15**

**Question 1:** On what line has the error occurred? 12

**Question 2:** What does the error message say is missing from forward() ?

*1 required positional argument: ‘speed’*

**Corrected Program:**

initio.init()

direction = input(["Which way would you like the robot to move? (F, B, L, R)"])

while(direction != "S"):

if (direction == "F"):

initio.forward(10)

elif (direction == "B"):

initio.reverse(10)

elif (direction == "L"):

initio.spinLeft(10)

elif (direction == "R"):

initio.spinRight(10)

direction = input(["Which way would you like the robot to move next? (F, B, L, R, S)"])

initio.stop()

**Question 3:** Click on **Go**. What happens?

*The program executes as normal to the end – prompting for user input as it goes.*

**Question 4:** How many times do you have to click **Over**?

*This should be 27 but may vary depending on how accurately they input responses when prompted.*

**Question 5:** Run the program again and click **Over** a couple of times and then click **Go.** What happens?

*Once* ***Go*** *is clicked the program executes to the end as normal.*

**Question 6:** Now run the program and click **Go.** Enter R when prompted by the program. What happens?

*The program starts executing, prompts for input and then stops.*

**Potential Issue:** Sometimes, particularly if code has been cut and paste from a worksheet IDLE doesn’t display the lines of code exactly as they appear to the debugger so the program won’t stop at the breakpoints as expected – or may even not stop at any breakpoint. If this happens it is best to exit the file and then reopen.

**Question 7:** What line have you stopped at?

*This will be line 15 if they cut-and-pasted from the worksheet – otherwise it will depend a bit upon their line space.*

**Question 8:** What is the value of direction?

R

**Ex15**

**Exercise 1:** The two errors are failing to case average to a string and calculating the average using multiplication rather than division.

**Exercise 2:** The exercise loops infinitely because total\_distance never increases. total\_distance should be calculated during the loop using the ulta-sonic sensor (like in Exercise 1).



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