**Unit 1 - Work return 4**

1. **Write a problem identification that restates the activity 4 RoboAnt problem in your own words.**

RoboAnt starts inside a ‘shed’. He has to leave the shed to go collect a large number of markers spread out in front of the shed. After collecting all the markers RoboAnt has to leave them in the ‘loading bay’ before returning to the starting shed.

1. **Write an analysis of the problem with suggestions on how you might solve it. Try to be specific and use technical language where you can.**

First, I will move RoboAnt out of the starting shed and to below the first avenue of markers. Using a for loop RoboAnt will go up the vertical avenues, picking up markers before calling a turn function to put him into the next avenue. RoboAnt will then continue this process until he has collected all of the markers. By starting RoboAnt from the bottom side of the markers, at the end he is closer to loading bay. Lastly by using a for loop and a function RoboAnt will return to the starting shed.

To complete the challenge, I will have to create a variable. Putting it inside my function allows me to add 1 to it every time RoboAnt picks up a marker. Using the Say function I can then divide the number of markers picked up by the number of corners (121) to get the required percentage.

1. **(Code)**
2. **Write an evaluation of your solution to activity 4 and provide recommendations for improvements.**

My solution for RoboAnt activity 4 was a moderate success. I was able to make RoboAnt complete the task defined. I was able to use nesting to reduce the amount of code required. To improve the code, I would rewrite the entire program, spending more time planning which routes would be most effective in terms of the amount of code required in total.