ICS2O Name: _____

Robotics Quiz

1. Given the following, use the provided subroutines to make your robot drive a SINGLE time as shown in the diagram. It should be two tiles wide in all directions.

Please note:

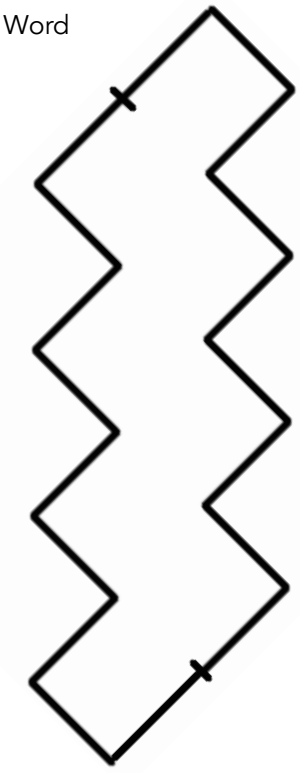
- The robot never drives backwards
- Do not directly control your motors (no 'PULSOUT')
- Do not use the PAUSE command
- Assume you are writing only the main code, no startup or subroutines
- Your code should be as efficient as possible
- Remember to STATE ALL ASSUMPTIONS including your start position

Available subroutines:

- FWD_1_Tile (Drive forward 1 tile)
- SPIN_L_90 (90° turn)
- SPIN_R_90 (90° turn)

Variables declared:

- count1 VAR Word
- count2 VAR Word
- count3 VAR Word



2. In the space provided below, sketch the path the following code would produce. Be sure to indicate the starting position/direction.
(Assume logical behavior for subroutines: ex. right_90 = 90 degree turn to the right)

```
' {$STAMP BS2}
' {$PBASIC 2.5}

counter VAR Word
counter2 VAR Word

FOR counter2 = 1 TO 4
  FOR counter = 1 TO 2
    GOSUB fwd_1_tile
  NEXT
  FOR counter = 1 TO 3
    GOSUB right_90
    GOSUB fwd_1_tile
  NEXT
NEXT
```