



## Problem of the Week

### Problem B

#### Coding Figures

Ayanna writes programs using the following commands that direct her robot to draw shapes.

| Command     | Explanation  |
|-------------|--|
| Pencil down | Puts the pencil in position to draw as the robot moves     |
| Move        | Moves the robot a given distance forward                   |
| Turn CW     | Rotates the robot one quarter turn (90°) clockwise         |
| Turn CCW    | Rotates the robot one quarter turn (90°) counter clockwise |

(a) For each program, follow the code to draw the shape. You may find grid paper helpful.

(i) Pencil down  
Repeat 4 times  
    Move 5 cm  
    Turn CW  
End

(ii) Pencil down  
    Move 4 cm  
    Turn CCW  
    Move 2 cm  
    Turn CW  
    Move 2 cm  
    Turn CW  
    Move 6 cm  
    Turn CW  
    Move 6 cm  
    Turn CW  
    Move 4 cm  
End

(b) Write a program that would direct Ayanna's robot to draw the given rectangular U-shape.

