

## Programmer Manual

### Class Pen

#### 1. Problem Description

A Pen object represents a pen held by the turtle which it can draw on the board with

#### 2. Class Pen

The Pen class consists of a character which represents the brush stroke of the pen which is drawn onto the board, and a boolean determining whether the pen is up or down.

Private data members:

bool isDown	true if pen is down, false if pen is up
char drawChar	the character to be drawn

Public member functions:

Pen()	Constructor for a Pen object
togglePenPosition	sets the pen up or down
getPenPosition	returns whether the pen is up or down
getBrush	returns the brush to draw with

#### 3. High Level Program Solution

Pen()

Initializes isDown to false, setting the pen's position as up  
Initializes drawChar to 'O' as a default value to draw with

togglePenPosition()

Toggles the pen up or down  
If isDown is false, set it to true  
Otherwise, set it to false

getPenPosition()

Returns true or false if the pen is down or up respectively

getBrush()

IN: selection                      the number of the brush to use

If selection is 1, drawChar is 'O'

If selection is 2, drawChar is '\*'

If selection is 3, drawChar is '&'

If selection is 4, drawChar is '%'

Otherwise, return 1 to signify failure