/////// // // ////// /////// // //////

// // // // // // // //

// // // //// // // //////

// // // // // // // //

// ////// // // // ////// //////

/////// ////// ////// // // ///// // ////// //

// // // // // // // // // // // //

// //// // // // // ///// // ////// //

// // // // // // // // // // //

// // // ////// ////// //// ////// ////// //

User Manual

By: Jeffrey Marron for B. Streller’s Fall 2015 CS132 class

Contents:

1. Backstory
2. Command Interface
3. Change Pen Position
4. Turn
5. Move Forwards
6. Print
7. Change Brush
8. Erase/Start Over
9. Jump
10. See Menu Again
11. End Program

Backstory:

In a land far, far away there exists a massive fortress with a large square floor surrounded on all four sides by doubly reinforced concrete block walls. A mischievous yet humble cyborg turtle named Leonardo has imprisoned himself inside for his own safety until his fellow turtle warrior brethren can come to his aid and rescue him from the savage land. His only solace while waiting for them is in creating beautiful abstract art masterpieces. The only problem is that an evil warlock cast a spell on him, which removed his artistic talent and now he is unable to entertain himself. The good news is that you can provide him temporary reprieve. By running this program you initialize a direct neural link to his cerebral cortex through his cyber-brain thus enabling you to remotely control him. Your mission is to entertain this cyborg turtle or he will regress to madness before his comrades have the chance to save him!

Command Interface:

Running this console program will initially bring up the main menu along with a flashing cursor located directly below it. The following commands can be selected through the console interface by first entering the appropriate number and then pressing enter. Furthermore, some of the commands require additional input which can be entered either after pressing enter or at the same time as the command number separated by spaces.

1 - Change Pen Position:

Leonardo loves to paint. If the pen position is changed to down, the turtle will leave brush strokes behind him while he walks forwards.

* + The default pen position is set to “up”.
  + This command operates like a toggle switch: if the pen is up then it will be brought down and if it’s down it will be brought up.

2 – Turn:

Leonardo has to be able to change direction in order to navigate the floor. He can turn at 90 degree angles relative to his position so that he can face North, South, East, or West (up, down, right, or left respectively).

* + The directions North, South, East, and West are represented as N, S, E, W respectively.
  + The default direction is set to “E”
  + This command is operated by selecting it and then entering a direction. For example, if the user wanted to turn and face south they would enter “2 S” or “2 s” into the console with the “2” and the “S” or “s” separated by a space.

3 – Move Forwards:

Leonardo can only move forwards in whatever direction he is facing. He is only limited in his movement by the walls surrounding the floor.

* + The user cannot move forwards in a distance greater than the dimensions of the floor i.e. 20 spaces.
  + Walking into walls will not hurt the turtle as he is coated in carbon fiber and mithril composite armor.
  + This command is operated by selecting it and then entering the amount of spaces to move. For example, if the user wanted to move the turtle forwards 10 spaces they would enter “3 10” into the console with the “3” and the “10” separated by a space.

4 – Print:

The user has the ability to launch a surveillance drone above the fortress courtyard to check Leonardo’s progress as well as to see what shapes/patterns he has drawn while moving with the pen down.

* + The floor is displayed in the console with the walls forming a perimeter around it.
  + The turtle will appear as a “sun” character with its default position in the upper left hand corner of the floor at coordinates (1,1).
  + Underneath the floor is a status bar indicating the turtle's current direction, the pen status, and the turtle's current (x,y) coordinates.
  + This command only needs to be selected to operate.

5 – Change Brush:

Leonardo’s pen is imbued with powerful shape shifting magic. It has the ability to change to different types of brush strokes which allow for more unique shapes/patterns to be created on the floor.

* + Selecting this command will open a sub-menu with four different brush options as well as a return to program option.
  + To open the pen sub-menu the user only has to input “5” into the console input while inside the main program. They then need to enter the appropriate number for the brush that they wish to select.

6 – Start Over:

This option opens a temporal vortex inside the floor which tunnels through the space-time continuum on a quantum level to the point at which the floor was created. All of the brush strokes left by Leonardo disappear as if they never existed. Additionally, his location and direction, as well as the position of the pen are also displaced through time to their original settings when the floor was created.

* + This command is only needs to be selected to operate.
  + The temporal displacement field initialized by this command is local to the floor and will not interfere with other computer operations or the reality that the user exists in.

7 – Jump:

In addition to walking forwards, Leonardo can move by jumping across the floor to any location desired regardless of the direction that he's facing. Despite his incredible abilities, he is unable to jump over the walls because his innate fear of cats.

* + The turtle is unable to jump to out of bounds coordinates.
  + This command is operated by selecting it and then entering the (x,y) coordinates. If the user wanted to jump to coordinates (12, 15) for example, they would enter “7 12 15” with the “7”, “12”, and “15” all separated by spaces.

8 – See Menu Again:

This displays the main menu and is very handy in case the user needs a reminder of what the commands are.

* + This has no effect on the rest of the program.
  + This command only needs to be selected to operate.

9 – End Program:

This option severs the neural link to the Leonardo’s cyber-brain which in turn closes the command interface. Once the interface is closed, Leonardo instinctively grabs a rag and spray bottle and proceeds to clear the floor of all the paint that was spread on it. He then returns to the top left corner of his fortress, faces east, and begins counting from one to infinity, waiting for either the reestablishing of the neural link or the arrival of his comrades.

* + This command only needs to be selected to operate.