

CSCI-101 Programming 1

Lab 19

No chit-chat. Lock in. Code fast.

The goal is to write a program that creates a 10x10 array of characters and allows the users to add words to the board.

In order to add a word to the board the program needs to know the coordinates (row and column) of the cell in which the word will start and the direction in which to add the word (vertical or horizontal or diagonal) to the board.

An example board might look like this:

```
_ a p p l e _ _ _ _
_ _ _ _ _ _ _ _ o _
_ _ _ _ _ _ _ _ r _
_ _ _ _ _ _ _ _ a _
_ l _ _ _ _ _ _ n _
_ _ e _ _ _ _ _ g _
_ _ _ m _ _ _ _ e _
_ _ _ _ o _ _ _ _ _
_ _ _ _ _ n _ _ _ _
_ _ _ _ _ _ _ _ _ _
```

- Write a program that does the following:
 - Create a 10x10 2D array of characters named **board**.
 - Initialize all of the elements in **board** to hold the underscore (`_`) character.
 - Repeatedly do the following in an infinite loop:
 - Print the contents of **board** to the screen.
 - Print to the screen “**Exit? (y/n)**” and read the value entered by the user.
 - If the user presses ‘**y**’ or ‘**Y**’ then terminate the program.
 - Ask the user to enter a word that they want to add to the board and read the word entered by the user.
 - Ask the user to enter the coordinates of the cell where the word will start and read the coordinates entered by the user.
 - Ask the user to enter a direction (**v for vertical / h for horizontal / d for diagonal**) and read the value entered by the user.
 - Determine if the word entered by the user can fit on the board.
 - If so, add the word to the board; otherwise tell the user the word cannot fit on the board.