Assessment Sheet 4

This is the fourth of eight assessment sheets that you will be given over the duration of this unit. You will need to complete the tasks as outlined below and then document them in a word document. At minimum, you should provide screen shots of:

- Your code
- The output that your code generates

In instances where your code could give different outputs depending on what values it is given, you should provide multiple screen shots of the console screen showing different outputs to demonstrate that the code is working correctly.

To achieve a D grade

Successful completion of this task (documented in your portfolio) will allow you to achieve up to a D1 grade.
Please follow all instructions:

In this week's class tasks you used loops to create a series of patterns. For this task you will be doing something very similar.
You will be creating a program that will display an X on a grid of dashes

- The user should be prompted to enter coordinates. Both coordinates should be represented by a number between 1 and 10.
- The program should then display a 10x10 square that is made up of dashes.
- An X should be displayed at the coordinates given by the user.

Here is an example of what this program should output:

```
Please enter an X coordinate (a number between 1 and 10):
5
Please enter a Y coordinate (a number between 1 and 10):
4
- - - - - - - - - -
- - - - - - - - - -
- - - - - - - - - -
- - - - X - - - - -
- - - - - - - - - -
- - - - - - - - - -
- - - - - - - - - -
- - - - - - - - - -
- - - - - - - - - -
- - - - - - - - - -
```

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Version 1.0

Note that the user entered the coordinates 5 and 4. Therefore, an X is displayed 5 dashes along and 4 down.

Complete the above task and then document it in your portfolio.

Note, to achieve a D

- The write up must demonstrate that the code works
- For a D grade, you only need to provide screen shots of your code and some of the different outcomes it can give - At this stage you do not need to do any writing
- Your word document should have appropriate headings to ensure that this task can easily be identified alongside your work from other assessment sheets.

To achieve a C grade

Modify the above program so it now behaves as follows:

- Once the grid has been displayed, the user should be prompted to enter a character of either 'w','a','s', 'd' or 'x'

- The program should then re-print the grid but, depending on what the user entered, the X will now be displayed in a new location.
    - If the user entered 'w' then the X should have moved up 1 space
    - If the user entered 'a' then the X should have moved left 1 space
    - If the user entered 's' then the X should have moved down 1 space
    - If the user entered 'd' then the X should have moved right 1 space.
    - If the user entered 'x' then the program should end (see below)

- If the user enters anything other than 'w', 'a', 's', 'd' or 'x' then the program should inform the user of their error

- The program should repeat until the user enters 'x'. However, the user should NOT have to enter the coordinates (from the D grade section) more than once

- Both uppercase and lowercase letters should be accepted.

- As always, with chars, any erratic behaviour should be fixed.

Add the modifications to your portfolio

Furthermore, to achieve a C

- The above task should be completed and documented in the portfolio. The portfolio should demonstrate that the code works
- ALL tasks must be accompanied by written descriptions or annotations. These must show some basic understanding of what the code is doing

To achieve a B grade

Modify the above program (C grade section) so it now behaves as follows:

- Currently, if the user enters one of the valid characters enough times, the X will vanish off the side of the grid. Modify the program so that if the user indicates for the X to go off the grid, one of two things will happen (you get to choose!)
    1. The X will not move
    2. The X will appear on the opposite side of the grid

To achieve a B:

- The above task should be completed and documented in the portfolio. The portfolio should demonstrate that the code works

- All tasks must be accompanied by written **explanations** - All new concepts, as they are encountered should be explained. It is acknowledged that, for this week, there are no new concepts - however, you may have looked up how to do certain things and these should be explained. This is in addition to the C grade tasks where you describe what your code is doing

- Any concepts that have been explained in work covered by previous task sheets do **not** need to be explained again (i.e. variables)

To achieve an A grade

- Your written explanations from the B task should be very detailed

As before, the A grade task will require some independent research:

- There is no major A grade task this week. However, you should still demonstrate some independent research. This can be in the form of looking up small things that can help you (i.e. converting characters to upper/lower case to save you using an or condition in your if statements).
  If you have used anything extra in your code like this, then you should explicitly point it out. I would suggest discussing this in its own section.

- Please give this section an appropriate heading to ensure it is easy to find.

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