Exercise 6 - While Loop

1. Write a program that prints out "Have a good day" repeatedly. The program asks the user "Type 'more' to continue". If the user types more the program repeats itself, if the user types something else the program ends execution and prints out "Done". Save your program as greetings.py.

2. Write a program that asks the user to enter words over and over again. Your loop should count how many words have been entered. The loop should stop when the user enters the word "end".

    What happens when the user enters multiple words on a line?
    Ensure that your loop doesn't count the word 'end'

    Save your program as wrods.py.

3. Write a program that will add up a series of numbers and print out their average. The program should continue to ask the user to enter a number until they enter -1 which indicates they are done. Save your program as numbers.py.

4. Write a program that will count down from 100 to a number specified by the user. You decide what to count down by. Save your program as countDown.py.

    Sample output:

    ```
    <terminated> /Users/aaronkilpatrick/Documents/Python/ICS3U-Winter2011/Unit2GraphicsLoops/whileLoops.py
    Please enter a number where the counting should stop32
    100
    95
    90
    85
    80
    75
    70
    65
    60
    55
    50
    45
    40
    35
    ```

5. Write a program to simulate the playing of a simple **dice game** (played with one die). Roll the die to get a value from 1 to 6. We'll call this your point.

    Now, keep rolling the die until you get the same value (your point) again (This will be your while loop condition) and see how many rolls it takes. Print out the results of each of these roles. Save your program as rollingADice.py.

6. Write a program that will build on question 5. Your main should prompt the user for a desired dice sum (total of 2 dice). Then the main should then repeatedly roll two six-sided dice until their sum is the desired sum (randomly generate two separate dice values). Save your program as rollingTwoDice.py.

   Here is what a run of your program should look like:

   What sum are you looking for? <u>6</u>
   Rolled a 4 and a 4
   Rolled a 6 and a 5
   Rolled a 2 and a 6
   Rolled a 5 and a 6
   Rolled a 4 and a 2
   Got a 6 in 5 rolls!

7. Write a number guessing game. The computer should choose a number randomly between 1-100. The program continually asks you to guess the number. Each time you guess the computer tells you that you either guessed too high, too low or found the number. If you didn't guess correctly it should ask you to guess again. The program should also keep track of the number of guesses you've taken. Save your program as guessingGame.py.

   Here is a sample output

   Welcome to the LINUX guessing game.
   ****
   Please guess our number between 1-100. <u>43</u>
   Your answer is incorrect and too low.

   Please guess our number between 1-100. <u>65</u>
   Your answer is incorrect and too high.

   Please guess our number between 1-100. <u>61</u>
   Your answer is incorrect and too low.

   Please guess our number between 1-100. <u>62</u>
   You guessed correctly in 4 tries. Congratulations.

8. You are trying to help your younger sibling/cousin learn to multiply. Your task is to write a multiplication game.

   Your game should display a welcome message including the player's name. It should then randomly generate two numbers and ask the player to type in their product. The player should get one point for every correct answer. The game should keep going until the user types in -1. After the game is over, the player's score should be displayed. Save your program as multiplicationGame.py.

   Here is what your game could look like, user input is underlined:

   Welcome to the multiplication tutor!
   ****
   What is your name? <u>Sally Ann</u>
   Let's see how good you are at multiplication, Sally Ann.

Type -1 at any time to exit and see your score
What is 5 * 8? <u>40</u>
Correct!
What is 8 * 8? <u>64</u>
Correct!
What is 7 * 10? <u>77</u>
NO! The answer was 70
What is 7 * 9? <u>9</u>
NO! The answer was 63
What is 5 * 5? <u>25</u>
Correct!
What is 9 * 9? <u>-1</u>

Thanks for playing, Sally Ann! You scored 3 points.