

# Python Programming (Assignment -3)

## CSE, 3<sup>rd</sup> Semester

Deadline September 06, 2020

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### Note -

- Create your GitHub profile as taught in lectures and then push all your programs to folders named according to the assignment. For Example - when you push codes of this assignment, they should be inside the Assignment3 folder.
- Please keep in mind that you don't commit all the codes together. Keep on committing codes module wise or question wise whatever seems available.

1. Write a Python function to check whether a string is pangram or not.

**Note:** Pangrams are words or sentences containing every letter of the alphabet at least once.

**For example:** "The quick brown fox jumps over the lazy dog"

2. LESSER OF TWO EVENS: Write a function that returns the lesser of two given numbers if both numbers are even, but returns the greater if one or both numbers are odd

*lesser\_of\_two\_evens(2,4) --> 2*

*lesser\_of\_two\_evens(2,5) --> 5*

3. Given a sentence, return a sentence with the words reversed

*reversed\_words('I am home') --> 'home am I'*

*reversed\_words('We are ready') --> 'ready are We'*

**Note:** The .join() method may be useful here. The .join() method allows you to join together strings in a list with some connector string. For example, some uses of the .join() method:

4. Given an integer n, return True if n is within 10 of either 100 or 200

*almost\_there(90) --> True*

*almost\_there(104) --> True*

*almost\_there(150) --> False*

*almost\_there(209) --> True*

NOTE: `abs(num)` returns the absolute value of a number

5. Given a list of ints, return True if the array contains a 3 next to a 3 somewhere.

*has\_33([1, 3, 3]) → True*

*has\_33([1, 3, 1, 3]) → False*

*has\_33([3, 1, 3]) → False*

6. Given three integers between 1 and 11, if their sum is less than or equal to 21, return their sum. If their sum exceeds 21 *and* there's an eleven, reduce the total sum by 10. Finally, if the sum (even after adjustment) exceeds 21, return 'BUST'.

*blackjack(5,6,7) --> 18*

*blackjack(9,9,9) --> 'BUST'*

*blackjack(9,9,11) --> 19*

7. Return the sum of the numbers in the array, except ignore sections of numbers starting with a 6 and extending to the next 9 (every 6 will be followed by at least one 9). Return 0 for no numbers.

*summer\_69([1, 3, 5]) --> 9*

*summer\_69([4, 5, 6, 7, 8, 9]) --> 9*

*summer\_69([2, 1, 6, 9, 11]) --> 14*

8. Write a function that takes in a list of integers and returns True if it contains 007 in order

*spy\_game([1,2,4,0,0,7,5]) --> True*

*spy\_game([1,0,2,4,0,5,7]) --> True*

*spy\_game([1,7,2,0,4,5,0]) --> False*

9. Write a function that returns the *number* of prime numbers that exist up to and including a given number. Hint - By convention, 0 and 1 are not prime.

*count\_primes(100) --> 25*

10. You've already learned a ton and are ready to work on a real project.

Your Task: Create a Tic Tac Toe game. You are free to use any IDE you like.

Here are the requirements:

- 2 players should be able to play the game (both sitting at the same computer)
- The board should be printed out every time a player makes a move
- You should be able to accept input of the player position and then place a symbol on the board