Python Exercises

List:

1.
    a. Create a list called students with at least 5 candidates from the class (with first name and last name, separated by space).
    b. Print the 3rd person.
    c. Print the first letter of the 3rd person.
    d. Change the name of the 3rd student to “Ole”
    e. Add the last name “Nordmann” to Ole (from d).
    f. Add the person you originally had in the 3rd position, but to the end of the students-variable.
    g. Add a person called “Monty Python” at index 4, not just changing the name at position 4, but shifting the later students one index down.
    h. Print the length of the student list
       Remove “Ole Nordmann”
       and again print the length of the student list to verify that it’s one lower.
    i. Get and print the index of the person called “Monty Python” now after the removal of “Ole Nordmann”.
    j. Print the first 3 students
    k. Make a variable students_reverse where by using slicer, you reverse the students order

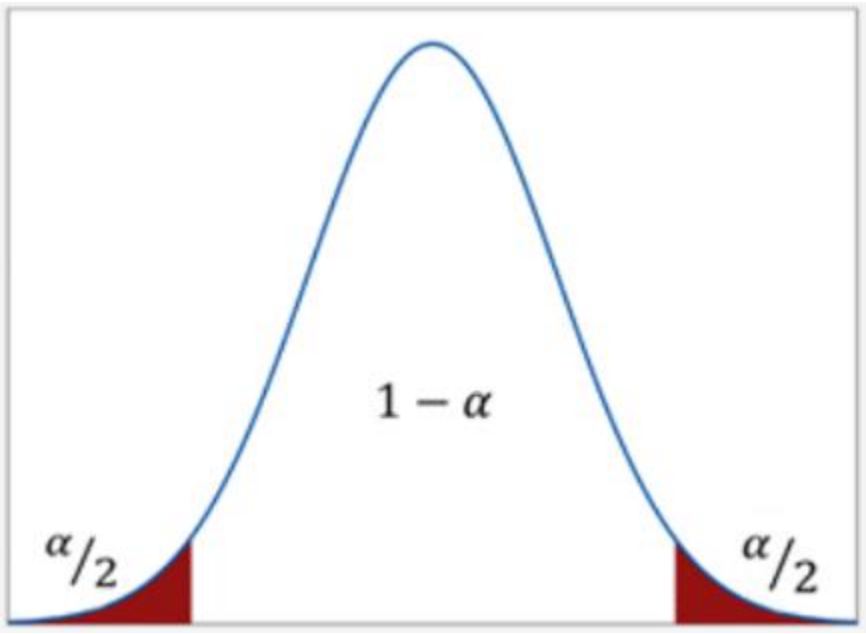
l. Make a variable students_even where by using slicer, you only save the students at the even position (index 0, 2, 4) using slicer [start_idx : end_idx : step_size]
m. Do the same as above, but odd indexes.

2.

a. Go back to ex4_if_else_bool question 2, remove the 5 variables and make a new variable called dice which is a list of the values 1 to 6.
   Add a variable called n_dices which you can set to 5 (as it is only 5 dices in Yahtzee).
   create a new variable called rand_dices using random.choices, dice and n_dice, which should holde n_dice random dice values.
b. Fix the code such that the logic for checking if it is a Yahtzee using the rand_dices variable.
c. Also print the minimum dice value, max value and print the full list of dices, but after the list is sorted.

3. Make a upper and lower quantile calculator.
   The goal is to create a program that can find the upper and lower interval of a list of number (like a numerical

confidence interval), based on some confidence level.



a. Start by defining the variables
    i. values (which is a list of random number, you can type in yourself)
    ii. alpha (a number between 0 and 1)
b. Sort the list of values.
c. The next step is to extract the two indexes that defines the lower and upper interval given some alpha, such that the middle 1-alpha amount of the values lands within the middle.
   calculate the lower and upper index by:
   ```
   lower_idx = round(n*alpha/2)
   upper_idx = round(n*(1-alpha/2))-1
   ```
   remember the “round” as indexes require integers to work with list.
d. Use the sorted list to extract the lower and upper value, and print them.

4. Create the following variable:
   list_of_lists = [1, [2, 3,”4”], [5, [6, ”7”, 8], 9, 10]]
   use list selection and change the string values to numbers, hence “4” to 4 and “7” to 7.