Data Analytics with Python

Practice Problem Set 2

This practice is designed to help you understand the material better. You should answer all questions by writing a Python program

Problem 1

- Define a function called **check_even** that gets a number called **n** and checks if the number is even or not.
- Define a function called **combine_numbers** that gets two variable called **a** and **b** and returns a value which is 5 times of **a** minus twice of **b**.

Problem 2

In the lecture we learned about conditional statements. Now, try running the following codes in Python and see what happens:

```
x = 9
if x>2 and x<10:
    print(x)
```

- Change the value of **x** and re-run the code for different numbers. What do you think is the function of **and**?
- Redo the same code but this time replace **and** with **or**. What is the function of **or** in Python?
- Now, do some research and see what is the function of **not** in Python and how do we use them in conditional statements.

Problem 3

- Define a numpy array with all integers from 5 to 40. (**Hint:** Remember the function **range**)
- Divide all elements of the array by 5.
- Do the same operation (divide each element by 5) but this time using a for loop.
- Find all elements that are smaller than 22.
- Find all even elements (**Hint:** Use the symbol % for remainder and remember that an even number has a remainder of zero when divided by 2)