Practice

Exercise 1) Create a function that has as an input name and surname, and print them with the space in between.

Exercise 2) Create a function that has as input three numbers and output the sum of the first number, second number to the power two, and the third number to the power 3 (i.e. if the input is (a,b,c) the output is the sum $a + b^2 + c^3$).

Exercise 3) Write a program which will find all such numbers which are divisible by 7 but are not a multiple of 5, between 2000 and 3200 (both included). The numbers obtained should be printed. Hint: Consider use range (begin, end) method.

Exercise 4) The price of a given stock on each day is stored in an array. Write a Python program to find the maximum profit in one transaction i.e., buy one and sell one share of the stock from the given price value of the said array. You cannot sell a stock before you buy one.

Input (Stock price of each day): [224, 236, 247, 258, 259, 225]

Output: 35

Explanation: 236 - 224 = 12; 247 - 224 = 23; 258 - 224 = 34; 259 - 224 = 35; 225 - 224 = 1; 247 - 236 = 11; 258 - 236 = 22; 259 - 236 = 23; 225 - 236 = -11; 258 - 247 = 11; 259 - 247 = 12; 225 - 247 = -22; 259 - 258 = 1; 225 - 258 = -33; 225 - 259 = -34.

Exercise 5) Write a program to display all prime numbers within a range. Note: A Prime Number is a whole number that cannot be made by multiplying other whole numbers

Examples: 6 is not a Prime Number because it can be made by 2*3 = 6; 37 is a Prime Number because no other whole numbers multiply together to make it. Given: start = 25, end = 50. Expected output: Prime numbers between 25 and 50 are: 29, 31, 37, 41, 43, 47.

Exercise 6) Create the following data frame as given in Table 1. Calculate the average number of years. Extract the columns, i.e. data information, of the persons who have 21 years. Add one new attribute to this data frame, namely 'hobby', for which Nicole and Peter have 'basketball', and others 'ballet'. Print the data frame which consists only of elements whose attribute 'hobby' is ballet. Finally, print all information for Irina.

Tabelle 1: Data frame

	name	years	city
0	Nicola	20	Moscow
1	Gala	21	Belgrade
2	Peter	20	Berlin
3	Irina	23	London
4	Maria	21	Vienna