Ex 1 : OS and IDE

1. Write a program that print your first and last names.
2. Run the program from the command shell

Ex 2 : – Types & Operators

1. Get from the user two strings containing DIGITS only (for example : “43”, **No need for validation**)
- Print their SUM , Multiply and Divide
- Check : If they are equal – Print “Equal”
If not – print the bigger integer
2. Get from the user two strings and a number between 1 and 3 (**No need for validation)** :
- Print the string that has more **characters**
- Check if one string exists in the other
- Declare a third string that contains the first character of the longer string, to the character number that was given by the user (For example: if the longer string was ‘brok3n’, and the number that was entered by the user was: 3, then print on the third string: ‘bro’)
- Check the first char of the smaller string and replace all the occurrences of that value in the larger string with your name
- Declare a unified(merged) string from all the 3 strings and check how many times the “A” is appear within .
3. Declare an array of 3 strings and get them from the user
    - Replace the first and the third items in the array
    - Replace the second item with other array of 3 numbers
    - Print the second number in the inner array

Ex 3: – Basic Statements

1. There is an array : [17,1,12,54,23,9,21]
Write a program the will calculate the SUM of the numbers between 3-20 ONLY in the array

2.

- Declare two variables, the first variable’s value increases by 1 until 10 and the other until 30 (their initial value is to be set to: 0)
- Create a loop that will test 2 variables, until one reaches 10 **and** the second reaches 30, while the loop is running, you must request from the user an integer and add that integer to the total SUM of the each variable
- By the end of the loop,print the SUM

Write a program that receives from the user numbers (one by one and **No need for validation**) until the first number is greater than 10 or until the number’s SUM is higher than 30 Print their SUM.
3. Prompt the user to enter an array’s length.

- Fill the array with NoneType to the size that was given by the user.
- Create a for loop through the array, when looping, prompt the user to enter an integer and place that integer in the same array, if the user’s integer is bigger than 3, but is smaller than 5, insert the square of that integer to the array.

- print to the array to the user

Ex 4: - Collections

1. Prompt the user to enter numbers (one by one) and insert those numbers into array, until the the user enters a number that is bigger than 10
   - Verify that there aren't any elements that repeat themselves
   - Remove the numbers one by one and print them
2. Implement a data structure that will hold a key:value pairs in a variable named:"students", the key should be an integer and the value should be a list with **AT LEAST** three **INTEGER** elements, prompt the user to enter an ID, validate if the ID is in the dictionary and print out the highest grade in the value's list.

3. Build the following array:
[2 , " Hello" , ["Bye" , [6, 3, 1, { "nums" : [10,20,30] }]]] and Replace the [10,20,30] array with their sum (60)

Ex 5: – Functions

1. Write a program that defines a function which receives two parameters : an array and a number
- Print the Array's Sum
- returns :

True – if the number is greater than array length
False - if the number is lower or equal than array length

2. Write a function called "Add" that receives two numbers and returns their Sum. Write a function called "Mul" that receives two numbers and returns their Multiply but WITHOUT the "*" operator but by calls to "Add" function.
3. Write a function that receives two strings and print the longer one .
Execute it with map function for the following couples : "Hi"-"Hello" , "Shalom"-"Bye Bye"
4.* Write a lambda expression that receives 3 parameters and returns their multiply . Execute this functions for the following "triples" : 4,1,7 , 10,2,3 1,2,3
- Print only the results that higher then 20
- Print those "results" Sum
5.* Write a function that receives a number (2 power of some n - 16,64,256...) and print it's half in recursion . E.g: 32 - > Print : 32,16,8,4,2,1

Ex 6: – Modules

1.
Write a module called ArrayUtils with a function called PrintArray that receives an array of strings and print them one by one by calling a function called PrintString that exists in OTHER module called StringsUtils
Write a Main module that calls to ArrayUtils with an array pf strings
2. Move the Main modules and the other Byte Code files (.pyc) to the Python “Lib” library and execute the program from Geany.
3. Move the Main modules and the other Byte Code files (.pyc) to the a custom library called “My Python Programs” in the “C” drive and run the program from Geany.