CC4002 Information Systems

Workshop 5: Controlling the execution and scripting

Task 1 Getting familiar with scripting and executing Python scripts – create and execute the Hello World script which prints “Hello, World!” when executed.

Hint: *You will be able to use the Python interpreter in the labs directly without additional configuration. If you are using your own laptop and you have Python installed your interpreter can be found in the Windows folder – it is called py.exe*

Task 2 Write and test a Python script that asks you to enter some basic data about yourself (name, age, gender, address, etc.) and then prints it on the display.

Hint: *Use input operations and data type conversions*

Task 3 Write a Python script which defines a function that reads in a floating point format the radius of a circle and outputs the circumference and the area of the circle. Import the math package and use the pi variable from it to calculate. Test the program interactively at the command prompt of the interpreter, and in batch mode using prepared data file.

Hint: *Remember what you did last week and define a function with parameters. Start the interpreter, import the file and test the function.*

Task 4 Write a Python script which reads a sequence of numbers until 0 is entered, finds the biggest of the entered numbers and prints it out on the display

Hint: *use a while loop with exit condition*

Task 5 Write a Python script, say intGen.py that reads in an integer and then generates all natural numbers from 0 to that number. Test the script running it in a batch mode.

Hint: *read the input into an integer variable using proper type conversion operation and then loop over the range* of this variable

Task 6 Write another script, say intProc.py, which reads an integer, then reads the natural numbers up to that number in a loop, squares them and prints the squares out. Test the script first in a batch mode, then in a streamlined mode together with the previous script intGen.py. What is the output of this streamlined data processing?

Hint: *after you program the script pass the output generated by the previous script as an input of the script*

Task 7 Write a third script, say intSum.py, which reads an integer, then in a loop accumulates the values of all input values and prints out the sum of them. Test the script first in batch mode, then in a streamlined mode together with the previous two scripts – intGen.py and intProc.py. What is the output of this streamlined data processing?