

GTSC2143 Machine Learning for Business Analytics

Tutorial 1 – Python Basics

Please write down your answers in this document and submit it at iSpace by the end of this tutorial.

Activity 1. Jupyter Notebook Experience

1. Launch Jupyter Notebook using one of these methods:
 - a) Command line: Type `jupyter notebook`
 - b) Anaconda Navigator: Click the Jupyter Notebook icon
2. Create New Notebook
 - a) Create a new notebook and name it: `Tutorial1_<your_student_id>`
3. Execute Python Exercises
 - a) Complete Activity 2 exercises in separate Jupyter notebook cells

Activity 2. Python Basic Exercise

1. Basic Data Types and Operations
 - a) Create variables to store your name and student ID
 - b) Calculate 15 to the power of 3
 - c) Divide two integers to get a float result
 - d) Convert numbers to strings and perform string concatenation
2. List Operations
 - a) Create a list containing 5 numbers
 - b) Append a new element to the end of the list
 - c) Get the first 3 elements of the list
 - d) Get the last 2 elements of the list
 - e) Access the second-to-last element using negative indexing
3. Dictionary Operations
 - a) Create a student information dictionary containing your name and student ID
 - b) Add a new key-value pair to include your major information
 - c) Check if a certain key (“gender”) exists in the dictionary
 - d) Delete the key-value pair (major information) from the dictionary
 - e) Iterate through all key-value pairs in the dictionary
 - f) Create another student information dictionary with name: “test” and student ID: 1234
4. Package Import and Usage
 - a) Import Pandas
 - b) Create a DataFrame from the two student information dictionary
 - c) Export the DataFrame to a CSV file