MGNM801:BUSINESS ANALYTICS-I

L:0 T:0 P:3 Credits:2

Course Outcomes: Through this course students should be able to

CO1 :: describe the core syntax and semantics of Python programming language

CO2 :: discover the need for working with the strings and functions

CO3 :: illustrate the process of structuring the data using lists, dictionaries, tuples and sets

CO4 :: indicate the use of regular expressions and built-in functions to navigate the file system

CO5 :: infer the object-oriented programming concepts in Python

List of Practicals / Experiments:

Parts of Python programming language

- identifiers
- keywords
- statements and expressions
- variables, operators, precedence and associativity
- data types
- indentation, comments, reading input, print output, type conversions
- The type() function and Is operator, dynamic and strongly-typed language

Control flow statements

- The if decision control flow statement
- The if…else decision control flow statement
- The if…elif…else decision control statement, nested if statement
- The while loop, the for loop, the continue and break statements, catching exceptions using try and except statement

Functions

- built-In functions, commonly used modules, function definition and calling the function
- the return statement and void function, scope and lifetime of variables, default parameters
- keyword arguments, *args and **kwargs, command line arguments

Strings and lists

- Creating and storing strings, basic string operations
- accessing characters in string by index number, string slicing and joining
- string methods, formatting strings

Lists

- creating lists, basic list operations, indexing and slicing in lists
- built-in functions used on lists, list methods, the del statement

Dictionaries

- creating dictionary, accessing and modifying key: value pairs in dictionaries
- built-in functions used on dictionaries, dictionary methods, The del statement

Tuples and sets

- creating tuples, basic tuple operations, indexing and slicing in tuples

- built-in functions used on tuples, relation between tuples and lists, relation between tuples and dictionaries
- tuple methods, using zip() function, sets, set methods, traversing of sets, frozen set

File handling and regular expressions

- types of Files, creating and reading text data, file methods to read and write data, reading and writing binary files
- the pickle module, reading and writing CSV files, Python os and os.path modules, regular expression operations, using special characters, regular expression methods
- named groups in Python regular expressions, regular expression with glob module

Object oriented programming

- classes and objects, creating classes in Python, creating objects in Python, the constructor method
- classes with multiple objects, class attributes versus data attributes, encapsulation, inheritance, the polymorphism

Creating the GUI form and adding widgets

- widgets: button, canvas, checkbutton, entry, frame, label, listbox, menubutton, menu, message
- radio button, scale, scrollbar, text, top level, spin box, paned window, label frame, tk message box, handling standard attributes and properties of widgets

Layout management

- designing GUI applications with proper layout management features

Look and feel customization

- enhancing look and feel of GUI using different appearances of widgets
- storing data in our MySQL database via our GUI : connecting to a MySQL database from Python, configuring the MySQL connection, designing the Python GUI database, using the INSERT command, using the UPDATE command, using the DELETE command, storing and retrieving data from MySQL database

Text Books:

1. PROGRAMMING IN PYTHON 3: A COMPLETE INTRODUCTION TO THE PYTHON LANGUAGE by SUMMERFIELD, M., ADDISON-WESLEY

References:

1. MACHINE LEARNING WITH PYTHON FOR EVERYONE by MARK FENNER, PEARSON