Modules Week Skill Outcome Topics Covered

Python 1

Introduction to Python

Python Programming Environment &amp; Intellij

IDE

Fundamental Programming Structures in

Python

Literals, Python Comments, Data Types,

Variables

Python input &amp; output

Python Lists, Sets, Tuples, Dictionaries

Basic Git Essentials

Fundamentals in python

Implement program logic using

basic building block – Python,

programs on date, time,

mathematical operations

Conditions and Flow control

Iterations

Defining Functions, Variable Scope

Global Variables, Function Parameters

Returning Values, Importing Modules

Date and Time

Math

Exception, File Handling, Unit

Testing 3

Implement program using

exception handling, reading

and writing the data into a file,

understanding in creating test

cases using unit testing

String - Quotation Marks and Special,

Characters, String Indexing, Formatted String

Literals (f-strings), Built-in String Functions

Errors and Exception handling

Else clause

Finally clause

File handling, File handling Modes, Reading

Files, Writing &amp; Appending to Files, Handling

File Exceptions

The with statement

Unit Testing using PyTest

4.OOP in python

Introduction to how objects

are represented in real world.

Learn to identify objects for a

given problem and write

object-oriented programs in

Python

Introduction to Object Oriented

Programming

OOP with Python

Creating Classes

Instance Methods

Inheritance

Polymorphism

Python with databases &amp;

Working with Regular

Expressions

5.Understanding python

database by connecting with

mysql database and perform

CRUD operations.

Understanding the regular

expressions

Generator, Decorator, Iterator

Python with databases

DB Connection

Performing CRUD operations

Handling Errors

Regular Expression syntax

Handling regular expressions

REST API, Flask

6 – 7 Understanding processing into

excel/ XML / CSV.

Understanding the Rest API ,

FLASK

Excel/XML/CSV processing

REST API

FLASK

Jinja templating

Working with Python Web Frameworks,

Design &amp; Building

RESTful API using Django 8 Creating web application using

Django, understanding HTTP

framework.

RESTful APIs using Django (and/or) Flask,

Python Hyper HTTP-2 Framework

Capstone Project

Capstone Project 9 Build, test, and deploy a backend

Application

Capstone project