

# CS – 33 : Programming in Advance Python – 2

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## Unit : 1 – Python Tkinter

- Python Tkinter
- Tkinter Button
- Tkinter Canvas
- Tkinter Checkbutton
- Tkinter Entry
- Tkinter Frame
- Tkinter Label
- Tkinter Listbox
- Tkinter Menubutton
- Tkinter Menu
- Tkinter Message
- Tkinter Radiobutton
- Tkinter Scale
- Tkinter Scrollbar
- Tkinter Text
- Tkinter Toplevel
- Tkinter Spinbox
- Tkinter PanedWindow
- Tkinter LabelFrame
- Tkinter MessageBox

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## Unit : 2 – Python Numpy

- NumPy Introduction
- Environment Setup
- NumPy Narray
- NumPy Data Types
- NumPy Array Creation
- Array From Existing Data
- Arrays within the numerical range
- NumPy Broadcasting
- NumPy Array Iteration
- NumPy Bitwise Operators
- NumPy String Functions
- NumPy Mathematical Functions
- Statistical Functions
- Sorting & Searching
- Copies and Views
- Matrix Library
- NumPy Linear Algebra

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## Unit : 3 – Plotting using PyLab & Multithreading

- Plotting using PyLab
- extended examples
- Thread
- Starting a thread
- Threading module
- Synchronizing threads
- Multithreaded Priority

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## Unit : 4 – Interaction with Database

- Configuring database
- defining model
- basic data access
- inserting and updating data
- selecting objects
- deleting objects

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## Unit : 5 – Introduction to web Framework Django

- Introduction to Django
- MVC Design Pattern

- Django installation
- starting project
- Django project architecture
- HTTP Client-Server Request – Response, concept of web framework and web application.

### **Reference Books :**

- 1) John V Guttag. "Introduction to Computation and Programming Using Python", Prentice Hall of India
- 2) Wesley J Chun, Core Python Applications Programming, 3rd Edition. Pearson
- 3) Michael Bowles, Machine Learning in Python, Essential techniques for predictive analysis, Wiley
- 4) Allen Downey, Jeffrey Elkner and Chris Meyers "How to think like a Computer Scientist, Learning with Python", Green Tea Press
- 5) Alex Martelli, Python Cookbook, O'REILLY

### **Reference Websites :**

- 1) <https://www.geeksforgeeks.org/python-gui-tkinter>
- 2) <https://www.tutorialspoint.com/python/python>
- 3) <https://www.javatpoint.com/python>
- 4) <https://www.numpy.org/>
- 5) <https://www.djangoproject.com/start/>
- 6) <https://www.tutorialspoint.com/django>
- 7) <https://www.javatpoint.com/django>