Programink.com

Experience a learning path that resonates with you. Learn full-stack development, Cloud computing, DevOps, Automation, Artificial intelligence and much more …

Live Classes	Practice Labs	Project Work
Assessments	Certifications	Recordings
Mentorship	Placement	Community

Classroom (Bengaluru) | Online (Global) | On-premise (Corporate)

Section 1: Python programming

Unit 1: Python Basics

1. Python Syntax
2. Features of Python
3. Variables
4. Operators
5. Basic input output statements
6. Keywords

Unit 2: Python Data Structures

1. Numbers: int, float, complex
2. Strings
3. List
4. Tuple
5. Dictionary
6. Set

Unit 3: Control-flow statements

1. Decision making with if conditions
2. if-elif-else
3. for loop
4. while loop
5. break and continue
6. for else loop
7. Comprehensions

Unit 4: Functional programming

1. Introduction to functions
2. Namespaces and scope
3. return keyword
4. Parameters and positional arguments
5. lambda function
6. map, filter and reduce

Unit 5: Exception handling

1. Errors and exceptions
2. Handling exceptions with: try, except, else and finally

3. Causing exceptions: raise and assert
4. Create your own exception
5. Logging
6. Logging levels and configuration

Unit 6: File handling

1. Introduction to files
2. File objects and modes
3. Opening and closing files
4. Read and write operations
5. Context manager – with

Unit 7: Working with directories

1. Directories and file path
2. os module
3. Making, changing and deleting directories
4. Listing directory and navigating file systems

Unit 8: Regular expressions

1. Introduction to re module
2. Special characters for pattern making
3. re functions and flags
4. String matching and pattern filtering
5. Greedy and non-greedy match
6. Simple character matches
7. Special characters
8. Data extraction

Unit 9: Classes and Objects

1. Object oriented programming
2. What are classes?
3. Understanding __init__ and self
4. Instance and class variables
5. Inheritance
6. Overriding rules
7. Method overloading
8. Operator Overloading

Section 2: Django framework

Unit 1: Django Introduction

1. What is Django
2. HTTP request and response
3. Django Model View Template architecture
4. Django installation
5. Virtual environment setup
6. Starting your First Django Project

Unit 2: Django App Architecture

1. Django project environment
2. Understanding settings.py
3. Start a new Django app
4. Django app components
5. Adding the app to your project
6. Creating Django Skeleton App

Unit 3: Django Models

1. Understating the Database tier of web-application
2. Defining Django Models
3. Understanding Model Fields & Options
4. Importance of __str__() method
5. Creating a Django Model
6. Django makemigrations and migrate
7. Django model relationships
8. Changing the Database Engine

Unit 4: Django Admin

1. Enabling the Admin Interface
2. Creating Admin Super User
3. Creating other Users and Groups
4. Add, Change, View, Delete permissions
5. Register Model with Admin
6. ModelAdmin and Admin Options

Unit 5: Django Urls

1. Django project urls.py

2. Django app urls.py
3. Django urlpatterns and path
4. Django TemplateView
5. Django URL patterns

Unit 6: Django Views

1. Generic Views
2. Using Django HttpResponse object
3. Understanding render() object
4. Using redirect()
5. Other Generic Views
6. Class based views

Unit 7: Django Orm & Querysets

1. Understanding Django ORM
2. Django Queryset API
3. Methods that return new QuerySets
4. all(), filter(), order_by(), distinct(), values(), values_list()
5. Methods that do not return new QuerySets
6. get(), count(), create(), update(), delete()
7. Two or more QuerySets
8. union(), intersection(), difference(), AND(&), OR(|), Q objects
9. Field lookups
10. exact, iexact, contains, in, gt, gte, lt, lte, startswith, endswith, range

Unit 8: Django Forms

1. Understanding Django Forms
2. ModelForm Class
3. Form validation
4. HTML forms
5. Select field and dependent dropdown fields in django forms
6. File field & Image fields in forms
7. Date, Time and Duration Field in Django forms

Unit 9: Django Users & Auth

1. Django Users and Groups
2. Django Authorizations: add, change, view, delete
3. Django Authentication, login and logout
4. Create a Django User Registration app

Unit 10: Django Templates & Static Files

1. Understating Django App Presentation Layers
2. Template tags and filters
3. Template inheritance
4. Static files reference: images, css and javascript

Unit 11: Django Tests & Exceptions

1. Using Python's UnitTest library
2. Writing Django Tests
3. Debugging
4. Django Exceptions

Unit 12: Django Security & Web Application Tools

1. Caching
2. Cookies
3. Django Emails
4. Pagination
5. Reusable Apps
6. Session
7. Sitemaps

Section 3: Django Rest Framework (DRF)

1. Introduction to Rest API
2. Working with JSON files
3. Serialization
4. API request methods
5. Routers
6. Class based views
7. API Permissions
8. Understating response objects and headers
9. Using CURL
10. Using Postman
11. Creating API endpoints in Django web application

Section 4: Django deployment to Amazon AWS Cloud

1. Using Git and GitHub
2. Setting up EC2 instance
3. Security Groups
4. Push code from git to AWS EC2 instance
5. Verify and test the live project
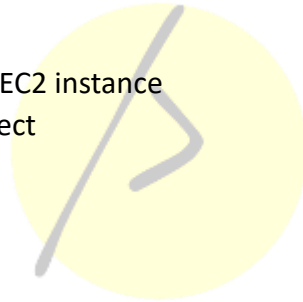
About the trainer

Carrying an experience of over 10 years, I pride myself for experiential learning approach. A training path that consists of visual learning, hands-on learning, project work, periodic assessments and mentorship. With us, you can be sure about getting the knowledge, certificate and placement.

■ *Ram Kumar*

- ✓ **University: UVCE, Bangalore**
- ✓ 100+ Corporate Batches
- ✓ Python Certified Processional
- ✓ Certified Kubernetes Administrator

- ✓ **Last Employer: Amazon, India**
- ✓ 3000+ Students
- ✓ AWS Certified Cloud Architect
- ✓ AWS Certified Machine Learning

Top clients