Python Programming

Session Plan





Session Plan

Python Basic Programming

Session	Contents		
	1. Python for Beginners		
	1.1 Introduction to Python		
	1.1.1	Install Python (Prerequisite)	
H	1.1.2	Download and Install Visual Studio Code	
G	1.1.3	How to use from command prompt	
SSi	1.1.4	How to open from Visual Studio Code	
Session 1	1.1.5	Execute from VS Code	
	1.1.6	Reopen using vs code	
	2. PYTHON E	BASICS	
	2.1.1	Operators	
12 ا	2.1.2	Variables	
<u>.</u> <u>.</u>	2.1.3	Boolean Operators	
Session 2	2.1.4	Practice-1	
\ S			
		CONTROL	
		itional Statements	
m	3.1.1	If-else Statement	
6	3.1.2	If-elif Statement	
Session 3	3.1.3	Practice-2	
Se			
	4. LOOP	CONTROL	
	4.1.1	While Loop	
4 د	4.1.2	For Loop	
<u> o</u>	4.1.3	Practice-3	
Sessi			
Se			
	5. LIST		
ις.	5.1	Introduction to python lists	
on	5.2	List Methods	
SSi	5.3	A few programs with lists	
Session 5	5.4	Practice-4	





	6. DICTI	ONARIES
9		onaries, what even are they?
ב	6.1.1	Create Dictionary
Session	6.1.2	Dictionary Methods
es	6.1.3	A few programs with Dictionaries
S	6.2.1	Practice-5
7 (7. FUNC	Introductions to functions
Session 7	7.1.1	
SS		Keyword Arguments
Se	7.1.3	A few programs with functions
	7.1.4 8. FILES	Practice-6 AND FILE FUNCTIONS
∞	8.1.1	Files Introduction
O	8.1.2	CSV File manipulation
SSi	8.1.3	Practice-7
Session	8.1.3	Practice-7
6		RSION
Session 9	9.1	Intro to Recursion
sic	9.2	A few programs with Recursion
es	9.3	Practice-8
S		
	10. OBJE	CT ORIENTED PROGRAMMING (OOP Part1)
Session 10	10.1	String Fromatting Basics
ב	10.2	OOP Basics
Sic	10.3	Instance Variables
es	10.4	Practice-9
S		
	11. OBJE	CT ORIENTED PROGRAMMING (OOP Part1)
ssion 11	11.1	Regular Methods
u	11.2	Class Variables
Sic	11.3	Class and Static Method
Ses	11.4	Practice-10
		CT ORIENTED PROGRAMMING (OOP Part2)
7	12.1	Inheritance
٦1	12.2	Multiple Inheritance
<u>.</u>	12.3	Polymorphism
Session 12	12.4	Practice-11
Se		
I		

	13. Dat	etime
13	131	Date Formatting
ב	13.2	Time Formatting
Sic	13.3	Digital Clock
Session		
S		
	14. Data	base SQLLite Connectivity
14	14.1	Create
1	14.2	List
. <u>e</u>	14.3	Update
Session	14.4	Delete
Š		
	15. Data	base MySQL Connectivity
15	15.1	Create
ב	15.2	List
Sic	15.3	Update
Session		·
S		
1		

Django Web Application Developing

3. Django Introduction 1.1 Install Django 1.1.1 Install Django 1.1.2 Update or Install pip Package Manager (Prerequisite) 1.1.3 Install virtualenv (Optional Prerequisite) 1.1.4 Install Django 1.1.4 Start a Django Project 1.2.3 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2.1 View Method Requests 2.2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings, py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell 5.1 Django Management Command Structure 5.3 Custom Management Command Structure 5.3 Custom Management Command Installation 5.4 Management Command Installation 5.4 Management Command Installation	Session	Contents	
1.1.1 Install Python (Prerequisite) 1.1.2 Update or Install pip Package Manager (Prerequisite) 1.1.3 Install virtualenv (Optional Prerequisite) 1.1.4 Install Django 1.1.5 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell		3. Django In	troduction
1.1.1 Install Python (Prerequisite) 1.1.2 Update or Install pip Package Manager (Prerequisite) 1.1.3 Install virtualenv (Optional Prerequisite) 1.1.4 Install Django 1.1.5 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell		1.1 Instal	l Django
1.1.2 Update or Install pip Package Manager (Prerequisite) 1.1.3 Install virtualenv (Optional Prerequisite) 1.1.4 Install Django Project 1.2.3 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2.1 View Method Requests 2.2.2 View Action Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			· ·
1.1.3 Install virtualenv (Optional Prerequisite)	-	1.1.2	
1.2.3 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	on	1.1.3	, , , , , , , , , , , , , , , , , , , ,
1.2.3 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	SSi	1.1.4	
1.2.3 Creating the Web Application 4. Django Urls and Views 2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	Se	1.1.4	Start a Django Project
2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell		1.2.3	Creating the Web Application
2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			<u> </u>
2.1.1 Common Url Patterns 2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell		4 Diaman III	In and Manager
2.1.2 Url Parameters, Extra Options, and Query Strings 2.1.3 Url Naming and Namespaces 2.1.4 Url Method Requests 2.2 View 2.2.1 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-in Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			
2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	~		
2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	چ		
2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	sio		·
2.2.1 View Method Requests 2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	e Si		On Method Requests
2.2.2 View Method Responses 3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	S		View Method Deguests
3. Django Templates 3.1 Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			·
3.1. Django Template Syntax 3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			
3.1.1 Django Template Configuration 3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			·
3.1.2 Template Search Paths 3.2 Built-In Django Filters 2.2.1 Dates 2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			, ,
2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	8		
2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	<u>.</u>		·
2.2.2 Strings 2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	SS		
2.2.3 Lists 2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	Se		
2.2.4 Numbers 4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			
4. Django Application Management 4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			
4.1.1 Django settings.py for the Real World 4.1.2 Define ALLOWED_HOSTS 4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			
4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	<u>.</u>		
4.1.3 Allow Application 4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	888		, , , , , , , , , , , , , , , , , , , ,
4.1.4 Static Web Page Resources 4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell	S 4		-
4.1.5 Images, CSS, JavaScript 5. Django Shell: Python manage.py Shell			
5. Django Shell: Python manage.py Shell			-
			<u> </u>
5.2 Custom Management Command Structure 5.3 Custom Management Command Installation	D.		, , , , , , , , , , , , , , , , , , , ,
5.3 Custom Management Command Installation	on		
Ú 5.4 Managamand Command Automation	SSi		
S.4 Management Command Automation	Se	5.4	Management Command Automation
			-

	6. Diang	go Models	
9		go Models and the Migrations Workflow	
Session 6	6.1.1	Create Django Models	
Sic	6.1.2	Django Model Data Types	
es	6.1.3	Predetermined Values: default, auto_now, auto_now_add, and choices	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	6.2.1	Form Values: Editable, help_text, verbose_name, and error_messages	
_		o Forms	
7ر	7.1.1	Initialize Forms: Initial for Fields and Forms, init method	
Session 7	7.1.2	Django Form Field Types: Widgets, Options, and Validations	
SS	7.1.3	Field Layout Values: label, label_suffix, help_text	
Se	7.1.5	rield Layout Values. label, label_suffix, fielp_text	
∞		8. Bootstrap - Pagination	
Ξ	8.1	Card Layout	
sic	8.2	Table Design	
Session 8	8.3	Navigation using Navbar	
	0 5	viewee beend Test Teshwisuse	
6	9. Exper	rience-based Test Techniques	
uc		Error Guessing	
Sic	4.4.2	Exploratory Testing	
Session 9	4.4.3	Checklist-based Testing	
0		Template design	
11	10.1	Slide Show	
<u>io</u>	10.2	Google Map	
Session 10	10.3	You Tube Embed	
Se			
	11. Form	Validation	
ession 11	11.1	Using Bootstrap Alert	
ou	11.2	Using Sweet Alert	
ssi	11.3	Built in Message	
Se			
	12. Email	Send	
	12.1	Configure Email Account	
17	12.2	Settings for Email	
ou	12.3	Email Form Design	
SSi	12.4	Creating URLs	
Session 12	12.5	Check Email	
O ,	12.5	Check Email	

	13. Class Base	ad View
13	131	Create Template
	13.2	Edit Template
sio	13.3	View Template
Session	13.4	Delete Template
()		
	14. Dep	oy
4	14.1	Create a Pythonanywhere Account
	14.2	Compress The Web Application
<u> </u>	14.3	Upload Using BASH
Session	14.4	Decompress the application
Š	14.5	Configure Web Application
	14.6	Run
	15. Auth	nentication
15	15.1	Register View
	15.2	Login View
sio	15.3	Creating Register Template
Session	15.4	Creating Login Template
0		

Session 16

16.	Django admin Management	
	16.1	Record Display: list_display, format_html, empty_value_display
	16.2	Record Order: admin_order_field and ordering
	16.3	Record Links and Inline Edit: list_display_links and list_editable
	16.4	Record Pagination: list_per_page, list_max_show_all, paginator