

Name of Faculty : Dr. Ajit Kumar, Lecturer

Semester : 5th

Subject : Python Programming

Lesson Plan : 15 Weeks

Week	Theory		Practical	
	Lecture Day	Topic (including assignment /test)	Lab Week	Topic
1	1st	The way of the program: The Python programming language, What is a program?	1st	Let list1 and list2 be two lists of integers. Implement function sublist() that takes as input lists list1 and list2 and returns True if list1 is a sublist of list2, and False otherwise. >>> sublist([15, 1, 100], [20, 15, 30, 50, 1, 100]) True >>> sublist([15, 50, 20], [20, 15, 30, 50, 1, 100]) False
	2nd	What is debugging?, Syntax errors, Runtime errors, Semantic errors, Experimental debugging		
	3rd	What is Variables, Expressions and Statements: Values and data types, Variables, Variable names		
2	4th	Define keywords, Statements, Evaluating expressions, Operators and operands, Type converter functions	2nd	Write function vowelCount() that takes a string as input and counts and prints the number of occurrences of vowels in the string. >>> vowelCount('Le Tour de France') a, e, i, o, and u appear, respectively, 1, 3, 0, 1, 1 times.
	5th	Order of operations, Operations on strings, Input, Composition, The modulus operator.		
	6th	Conditionals: Boolean values and expressions, Logical operators		
3	7th	Simplifying Boolean Expressions, Conditional execution, Chained conditionals,	3rd	Write a function should print the file on the screen with this modification: Every occurrence of string 'secret' in the file should be replaced with string 'xxxxxx'. >>> crypto('crypto.txt')
	8th	Nested conditionals, The return statement, Logical opposites		
	9th	Revision		
4	10th	Iteration: Assignment, Updating variables, The for loop, The while statement,	4th	Write a function stats() that takes one input argument: the name of a text file. The function should print, on the screen, the number of lines, words, and characters in the file; your function should open the file only once.
	11th	The Collatz sequence, Tables, Two-dimensional tables, Paired Data, Nested Loops for Nested Data.		
	12th	Strings: Working with strings as single things, Working with the parts of a string, Length, Traversal		
5	13th	For loop, Slices, String comparison, Strings are immutable, The in and not in operators	5th	Implement function distribution () that takes as input the name of a file (as a string). This oneline file will contain letter grades separated by blanks. Your function should print the distribution of grades, as shown. >>> distribution('grades.txt') 6 students got A, 2 students got A- 3 students got B+ 2 students got B 2 students got B- 4 students got C 1 student got C- 2 students got F
	14th	Find function, Looping and counting, Optional parameters, The built-in find method, The split method, Cleaning up your strings, The string format method		
	15th	values, Composability of Data Structures.		
6	16th	List parameters, List methods, Pure functions and modifiers, Functions that produce lists, Strings and lists	6th	The function censor () takes the name of a file (a string) as input. The function should open the file, read it, and then write it into file censored.txt with this modification: Every occurrence of a four-letter word in the file should be replaced with string 'xxxx'. >>> censor ('example.txt') Note that this function produces no output, but it does create file censored.txt in the current folder.
	17th	list and range, Nested lists, Matrices. Functions: Functions with arguments and return values		
	18th	Revision		
7	19th	Creating your own modules,	7th	Create a dictionary for phones and their prices. Write functions to add and remove a new entry
	20th	Namespaces, Scope and lookup rules, Attributes and the dot operator.		
	21st	Files: About files, Writing our first file, Reading a file line-at-a-time,		
8	22nd	Turning a file into a list of lines, Reading the whole file at once,	8th	Write a Python program that prompts the user to enter a list of first names and stores them in a list. The program should display how many times the letter 'a' appears within the list.
	23rd	Working with binary files, Directories, fetching something from the web.		
	24th	List Algorithms: Linear search, Binary search, Merging two sorted lists.		
9	25th	Revision	9th	Write a Python program that prompts the user to enter integer values for lists.
	26th	TEST		
	27th	Object oriented programming: Classes and Objects- The Basics, Attributes, Adding methods to our class		
	28th	Instances as arguments and parameters, Converting an instance to a string, Instances as return values,		Suppose variable s has been assigned in this way: s = ""A given string ..."" Then do the following, in order, each time: (a) Write a sequence of statements that produce a copy of s, named newS, in
	29th	Objects are mutable, Sameness, Copying.		

10	30th	Exceptions: Catching exceptions, raising our own exceptions, the finally clause of the try statement	10th	which characters ., ,, ;, and \n have been replaced by blank spaces. (b) Remove leading and trailing blank spaces in newS (and name the new string newS). (c) Make the all characters in newS lowercase (and name the new string newS). (d) Compute the number of occurrences in newS of string 'it was'. (e) Change every occurrence of was to is (& name the new string newS) (f) Split newS into a list of words & name the list listS
11	31st	Inheritance: Polymorphism, Generalization, Pure functions.	11th	Numerologists claim to be able to determine a person's character traits based on the numeric value" of a name
	32th	Revision		
	33rd	TEST		
12	34th	GUI: Creating Graphical User Interfaces, Using Module Tkinter, Building a Basic GUI, Models,	12th	Write a python program with function inner_product(x,y) that computes the inner product of two (same length) lists
	35th	Views, and Controllers, Customizing the Visual Style, Few More Widgets		
	36th	Databases: Overview, Creating and Populating, Retrieving Data, Updating		
13	37th	Deleting, Using NULL for Missing Data,	13th	The first number is removed from the list, and announced as a prime number, and all multiples of this number up to n are removed from the list. This process continues until the list is empty.
	38th	Using Joins to Combine Tables, Keys and Constraints, Advanced Features.		
	39th	Revision		
14	40th	Revision	14th	Write a program that reads an unspecified number of integers and finds the ones that have the most occurrences. Develop and test a Python program that allows a user to type in a message and have it converted into Morse code,
	41th	Revision		
	42th	Revision		
15	43th	Revision	15th	Revision
	44th	Revision		
	45th	Revision		