Days	DayWise TOC	Refernece Link	Status of the topics [Filled by the trainer]	
Day 1	1. Introduction to Python 2. Python features & characterstics 3. Python advantages & disadvantages 4. Installing Python 3 in Windows, Linux & MacOS 5. Compiler vs interpreter programming language 6. Python Features 7. Creating first variable in python & type() function 8. Introduction to python datatype 9. Python operators like arithmetic, logical, comparison 10. Operators precedence	Install Python => https://youtu.be/CVOaiWCUjog?si=Nu1ADVmkME8j8Vqr . Jupyter-Notebook => https://youtu.be/92qV-sQzzLM?si=qK4RuIRW6Hib2IWw		
Day 2	1. Membership & Identity operator 2. Python if-else 3. If-elif statement 4. Problem solving on if-else statement 5. Nested if-else	Data type => https://youtu.be/PxytKznkozI?si=Sx4Un0Hq62dyWxMy . Problems on If-else => https://drive.google.com/file/d/1SttFFBryWXdu2cXGlIrkprgPuSTQnIyU/view?usp=sharing		
Day 3	1. String formatting with 'f' 2. String .format() function 3. String Indexing 4. Slicing operator (All slicing operator with step size) 5. Understanding range() function 6. Running your first for loop	Loops => https://wiki.python.org/moin/ForLoop		
Day 4	1. Implementating for loop with conditions 2. Looping your first string value 3. Practice Question on for loop 4. Working with while loop 5. Practical question on while loop & conditional statement **Questions => Palindrome, fibonacci series, Armstrong nun**	For & while loop questions => https://drive.google.com/file/d/1GULrcefVXGyx5VMekjSh4UYHT5UjA0ei/view?usp=sharing		
Day 5	1. Understanding nested loop with simple examples 2. Creating your first star pattern 3. Hollow right angle triangle 4. Pyramid pattern 5. Interverted pyramid pattern 6. Hourglass pattern 7. Pascal's triangle pattern in Python More pattern programming & questions	Pattern programming => https://drive.google.com/file/d/1UXmmwPrtX15lxZPmX7RA5rwdK_g4sRhW/view?usp=sharing		
	Revision and practice question on hackerank (star 1 & 2)			
Day 6	1. Introduction to list datatype 2. Inserting, updating & deleting element from the list 3. Running first for loop on list 4. Walkthrough over the list methods 5. List vs Tuple 6. Tuple functions Q1 Finding the even number from the list Q2 Swapping 2 element from the list			
Day 7 Practice Questions	**Q1 Finding the maximum number from the list Q2 Fidning the second highest from the list Q3 Print duplicate element from the list Q3 Reversing elements from the list Q4 Counting total even and odd number from the list**	Leetcode => https://leetcode.com/problems/two-sum/ Leetcode => https://leetcode.com/problems/contains-duplicate/description/ Leetcode => https://leetcode.com/problems/two-sum-ii-input-array-is-sorted/		
Day 8	1. Practice question on List 2. Use-case of **Dictionary** 3. Key & values in dictionary 4. Dictionary functions 5. Finding total number of character in string 6. Calculate total vowels of character in dictionary 7. Calculate the total of each vowels character in dictionary	**Hackerank Should be completed upto 2 Star**		

Day 9	**Dictionary vs set** **Set functions like union, intersection, difference method** **Problem solving with set & Dictionary** 1. Problem solving on String manipulation 2. Finding substring in a string 3. Reversing string in python without indexing 4. Palindrome string 5. Checking the longest non-repeating character in a string 6. Second highest value in a list	https://leetcode.com/problems/valid-parentheses/ https://www.geeksforgeeks.org/python-extract-elements-with-frequency-greater-than-k/ https://www.geeksforgeeks.org/python-ways-to-remove-multiple-empty-spaces-from-string-list/?ref=leftbar-rightbar https://www.geeksforgeeks.org/python-ways-to-remove-multiple-empty-spaces-from-string-list/?ref=leftbar-rightbar	
Day 10	**7. checking the Valid Parentheses** **8. Finding the minimum & maximum value from the list** **9. Counting the occurances of an element from list** **10. Extracting element which available greater than k time** **Revision upto loops & Python datatypes**	Valid Parentheses : https://leetcode.com/problems/valid-parentheses/	
Day 11 **(Practice day on String)**	1. Write a program to check whether any string is Palindrome 2. Reverse the words of a string without using slicing operator 3. Write a program to uppercase the half of the string 4. Write a program to check whether any string contain 1 smal 5. Write a program to check whether a substring is present into 6. Remove substring list from the string	Valid Anagram => https://youtu.be/RvHEmhpI6PI?si=yaaAJATI2qPVWKUt Isomorphic String => https://leetcode.com/problems/isomorphic-strings/ Buy & sell stock [array] => https://leetcode.com/problems/best-time-to-buy-and-sell-stock/	
Day 12	1. Introduction to functions 2. Characterstic of functions 3. Creating your first function in Python 4. Types of argument in Python like: required, default, keyword, *args , **kwargs	Function => https://youtu.be/cl5HmKaixCM?si=_ycH2KqTuJo2rskK Functions Parameter => https://youtu.be/nMotchpXp7w?si=vgd16C88yIUm4mEE	
Day 13	Problem solving with functions 1. Finding LCM & HCF of two & three numbers 2. Creating Fibonacci series using functions 3. Introduction to recursion in functions 4. Fibonacci series with recursion 5. Revision of question with Functions 6.Understanding the use of **return keyword**	https://leetcode.com/problems/longest-common-prefix/description/ https://leetcode.com/problems/valid-palindrome/description/ https://leetcode.com/problems/contains-duplicate/description/	
Day 14	1. Walkthrough of Lambda functions 2. Lambda functions vs normal functions 3. Creating the first lambda functions 4. map, filter and reduce functions with lambda		
Day 15	1. High order vs first class functions Revision for all the topics upto functions **Understanding virtual environment in Python =>** **Pen-Paper Test**	First class functions: https://youtu.be/s-2jnm-Ym4g?si=2mKAD7zogMEnxKYj . . .	
Day 16	1. What is file handling 2. Reading the first text file 3. Writing the first text file 4. File modes like "r", "w","a", "r+", "w+", "x" 5. read(), readline(), readlines() method 6. Importing your first CSV packages 7. Reading csv file from CSV package 8. Witing & saving your first csv file	https://docs.python.org/3/library/csv.html	
Day 17	1. What is exception handling 2. Exception vs Errors 3. try-except block 4. nested try-except 5. finally keyword 6. Writing your first program with try-excepts		
Day 18	**Classes & Object (OOPS)** 1. Introduction to Classes 2. What is object? 3. Creating your first object of a class 4. Class variable vs object variable 5. Creating the first instance method		

Day 19	1. Use case of constructor 2.Creating instance variable 3. Chaning /updating instance value from the object 4. Introduction to **OOPS** in development 5. What is Inheritence 6. Type of inheritance 7. Single-level, Multi-level, Multiple inheritence				
Day 20	1. Introduction to Polymorphism 2. Method overloading vs method overridding 3. Method overidding in Python 4. Operator overloading in Python 5. Overloading the == (__eq__) method				
Day 21	1. What is encapsulation 2. Private & protected variable in class 3. Understanding abstraction feature of OOPS 4. @abstractmethod in python 5. Static method vs class method in Python @staticmethod @classmethod **Test Upto Classes**	https://realpython.com/instance-class-and-static-methods-demystified/ https://www.geeksforgeeks.org/class-method-vs-static-method-python/			
Day 22	1. What is decorator 2. Use-cases of Decorator 3. Creating your first decorator 4. Wrapping up OOPS concepts 5. Hands-on exercise & real use cases of Python	**Hackerank Question should be completed - 5 Stars**			
Day 23	**Advanced topics on Python** 1. Generator vs Normal functions 2. Decorators 3. if __name__ == "__main__"	Video => https://youtu.be/sugvnHA7ElY?si=z0nKZs4EXXKhLx8N			
Day 24	Interview preparation of the Candidates (Mocks) Test				
HackerRank 5 Star and 30 Leetcode concepts **(with Final Test)**					