Dated:23-9-2021

B.A. (Prog.) V Semester
Programming in Python
(BACS05B)
Discipline Specific Elective - (DSE-I) Credit:6

Guidelines

Unit	Topic	Chapter	Reference	#of Lecture
1	Introduction to Python	1 (upto 1.11) 2 (upto 2.12) 3 (upto 3.2) **1 (1.5,1.6,1.7),** **5 (5.1,5.2)**	[2] [2] [2] **[4] Additional Resources**	12
2	Functions Strings	4 (upto 4.9) **2 (2.1, 2.2)** **8 (8.1,8.2)** 6 (upto 6.9) **6 (only 6.1)**	[2] **[4] Additional Resources** 2] **[4] Additional Resources**	14
3	Unit 3 Control Structures	3.3-3.6 5 (upto 5.6) 3.2.5-3.2.8	[2] [2] [1]	14
4	Unit 4 Classes	10 (upto 10.2)	[4] Additional Resources	8
5	Unit 5 List and Sets Dictionaries Tuples	8 (upto 8.9), 8.13 **7 (7.1, 7.2)** 9 (upto 9.3) 10 (upto 10.5)	[2] **[4] Additional Resources** [2] [2]	12

References

1. Downey, A. B. (2015). Think Python How to think like a Computer Scientist (2nd Edition).
2. Severana, O. C. (2018). Python for Everybody (Exploring Data in Python 3). Shroff Publisher.

Additional Resources

1.Dromey, R.G (2006). How to Solve it by Computer. Pearson.

2.Guttag, J. V. (2016). Introduction to computation and programming using Python. MIT Press.
3.Liang, Y. D. (2013). Introduction to programming using Python. Pearson.
4.Taneja, S., & Kumar, N. (2017). Python Programming- A modular Approach. Pearson.

Practical

Practical based on Python:

1. Write a program to check whether the input number is even or odd.
2. Write a program that reads an integer value and prints “leap year” or “not a leap year”.
3. Write a program to compare three numbers and print the largest one.
4. Write a program to print factors of a given number.
5. Write a method to calculate GCD of two numbers.
6. WAP to calculate total marks, percentage and grade of a student. Marks obtained in each of the three subjects are to be input by the user. Assign grades according to the following Criteria:

   Grade A: Percentage >=80

   Grade B: Percentage>=60

   Grade C: Percentage>=40 and

   Grade D< =40
7. Using for loop and while loop , print a table of feet/centimeter equivalences. Let f be the height in feet ranging from 5 to 6 ft in step of 0.1ft. For each value of f, print the corresponding height in centimeter.
8. Write a program to add N natural numbers and display the total.
9. Write a program that takes a positive integer n and then produces n lines of output shown as follows.

   For example enter a size: 5

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10. Write a menu-driven program, using user-defined functions to find the area of rectangle, square, circle and triangle by accepting suitable input parameters from user.

11. Write a function that takes an integer input and calculates the factorial of that number.
12. Write a function that takes an integer ‘n’ as input and calculates the value of
    1+1/1! + 1/2! + 1/3!+……+1/n!
13. Write a program to generate Fibonacci series.
14. Write a function that takes a string input and check if it’s a palindrome or not.
15. Write a list function to convert a string into a list, as in list (‘abc’) gives [‘a’,’b’,’c’].