

R.D & S.H. National College and S.W.A Science College

Department of Computer Science

F.Y. B.Sc. (Semester I) (Computer Science) Internal Evaluation AY 2023 - 2024

Subject: Programming with Python - I

1. State and explain built-in datatypes of python.
2. Which are the different types of operators in python language?
3. Explain membership and identity operators with examples.
4. Explain while loop & for loop with syntax and example in detail.
5. With the help of examples, explain Tuples, Lists and Dictionaries and give comment on mutability for each of them.
6. What is lambda function in python? Explain with an example.
7. Explain Indexing and Slicing operations for the list with example in python.
8. Consider the string S1 = 'Hello How Are You?' Perform the following operations:
 - a. Find index of character 'o'
 - b. Replace 'You' with 'Dogs'
 - c. Slice string to print following:
 - i. eel
 - ii. Are
 - iii. Hello How
 - iv. Are You
 - d. Reverse the string
 - e. Print the same string 10 times by repetition.
 - f. Concatenate 'I am Fine' with S1
9. Given the Tuple: T = ((1, 2, ('Hello', 11, 12, "Python")), 21, 22, [31, 32, ("Zain", 13, "Sania", 12), "World"], 41, 42). Perform operations to get the following outputs:
 - a. Find the length of T and match it with your understanding
 - b. Output: (1, 2, ('Hello', 11, 12, "Python"))
 - c. Output: 11
 - d. Output: P
 - e. Output: 21, 22
 - f. Output: Zain
 - g. Output: Sania

- h. Output: S
 - i. Output: W
 - j. Output: 12
10. Consider the list L = [1, (2, 3), [4, 5, (6, 7, [8, 9, 10], 11, 12), 13], (14, 'Hello', [15, "Python", "HTML"])]
- a. Write python code to get the following output:
 - b. [8, 9, 10]
 - c. Python
 - d. M
 - e. 5
 - f. 8, 9
11. Consider the same List L and perform the following operations on it:
- a. Replace 'Hello' by 'Hi'
 - b. Count occurrence of 'o'
 - c. Fetch and reverse the word HTML
 - d. Can we find Max, Min and the sum of L? Why?
12. Create the dictionary in different ways using the following keys and corresponding values as follows:
- Keys = {1, 2, 3, 4, 5, 2, 3}
- Values = {'A', 'B', 'C', 'D', 'E', 'F', 'G'}
- a. Perform pop operation on the previous dictionary to remove element G.
 - b. Add (7, 'Seven') key-value pair to the dictionary
13. Write a program using while loop to count elements greater than 50 from given list
14. Write a program to print even numbers between 70 to 90 in reverse order using for loop
15. Write a program to initialize the list of numbers. Count and print the number of positive, negative and zero elements in the given list using for loop

Note:

1. Students have to complete the above assignment and submit through **Google Classroom** on or before **Saturday 14th October, 2023** (23: 59 hrs)
2. The assignment should be submitted in **PDF format** only.