



COURSE - 3 Python Programming

Unit 1 - Python Basics.

****Lab exercise to practice ****

It is important to note that these are not internal or final assessments, and learners are encouraged to practice in class, ask any questions they may have, and seek help from staff on the ground.

1. Declare an int variable and assign a signed value.
2. Declare a long variable and assign a value and the values should be octal and hexadecimal.
3. Declare a float variable and assign a value and the values should be floating point real values.
4. Declare a complex variable and assign a value and the value should be a complex number.
5. Declare int, long, float and string variables and perform multiple assignments.
6. Declare, delete, and print float variables.
7. What is the significance of `#!/usr/bin/python`
8. Declare a string variable and perform the following task.
 - a. Print complete string.
 - b. Print the first character of the string.
 - c. Print the characters starting from 3rd to 5th.
 - d. Print the string starting with the 3rd character.
 - e. Print the string two times.
 - f. Concatenated string
9. Declare a list variable and perform the following task.
 - a. Print the complete list.
 - b. Print the first element of the list.
 - c. Print the elements list starting from 2nd till 3rd.
 - d. Print the elements list starting from the 3rd element.
 - e. Print the list two times.
 - f. Print the concatenated lists.
10. Declare a tuple variable and perform the following task.
 - a. Print the complete tuple.
 - b. Print the first element of the tuple.
 - c. Print the elements tuple starting from 2nd till 3rd.
 - d. Print the elements tuple starting from 3rd element.



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- e. Print the tuple two times.
- f. Print the concatenated tuple.
- 11. Declare a dictionary variable and perform the following task.
 - a. Print the value for 'one' key.
 - b. Print the value for 2 keys.
 - c. Print the complete dictionary.
 - d. Print all the keys.
 - e. Print all the values.
- 12. Create an empty set and print the type.
- 13. Create a list of sets and print the content in the set.
- 14. Create a list of tuples and print the content of the tuples.
- 15. Create a list of dictionaries and print the content of the dictionary.
- 16. Create a list of Sets and Tuples and print them!
- 17. Create a list of Dictionary, Sets, and Tuples and print them.
- 18. Assignment – What is the difference between List, Set, Tuple, and Dictionary
- 19. Assignment – When to use what between List, Set, Tuple, and Dictionary
- 20. Research and develop some examples in the Google Colab for the following.
 - a. Data Type Conversion
 - i. Data Type Conversion
 - ii. `float(x)` - Converts x to a floating-point number.
 - iii. `str(x)` - Converts object x to a string representation.
 - iv. `tuple(s)` - Converts s to a tuple.
 - v. `list(s)` - Converts s to a list.
 - vi. `chr(x)` - Converts an integer to a character.
 - vii. `dict(d)` - Creates a dictionary. d must be a sequence of (key,value) tuples.
- 21.