
Date: 04/05/2024

Instructions:

- ❖ Test is to evaluate your skills, so kindly take it seriously and finish on time
- ❖ Don't copy paste the code from any source like the internet or books etc.
- ❖ Follow the best practices.
- ❖ Optimize the code
- ❖ Use comments where necessary
- ❖ Leave the answer sheet once the test is finished, our team will schedule a meeting for the individual evaluation and improvements
- ❖ All the best

Python

Questions:

1. What is Python?
2. What is the purpose of indentation in Python?
3. What is the difference between an interpreter and a compiler?
4. Write a Python program to check if a given string is a valid identifier or not.
5. What is the difference between a variable and a literal? Provide an example.
6. What are the different data types in Python? Give an example for each.
7. Write a Python function to convert a given temperature from Celsius to Fahrenheit.
8. What are the different arithmetic operators in Python? Provide examples for each.
9. What is the difference between the // and / operators in Python? Give an

example.

10. Write a Python program to find the remainder when a number is divided by another number.
11. What are the different bitwise operators in Python? Provide examples for each.
12. What is the difference between the == and is operators in Python? Give an example.
13. What are sequence data types in Python? Give an example for each.
14. Write a Python program to access elements from a list using different techniques.
15. Write a Python function to add elements to a list and return the updated list.
16. What is the difference between a tuple and a list? Give an example.
17. Write a Python program to create a dictionary and access its values.
18. How do you access values in a dictionary? Provide an example.
19. What is the purpose of the len() function in Python? Give an example.
20. What is the difference between a function and a method in Python? Provide an example for each.
21. Write a Python function to calculate the area of a circle given its radius.
22. What are positional and keyword arguments in Python functions? Give an example.
23. What is the purpose of the return statement in a function? Give an example.
24. Explain the concept of list comprehension in Python with an example.

25. Write a Python program to iterate over a dictionary and print its keys and values.
26. Write a Python function to find the factorial of a given number using recursion.
27. Write a Python program to reverse a string using slicing and a loop. Explain the differences between the two approaches.
28. Write a Python program to sort a list of dictionaries by a specific key value. For example, sort a list of student dictionaries by their age.
29. Implement a Python function to flatten a nested list. For example, given a list [1, 2, [3, 4], [5, [6, 7]]], the function should return [1, 2, 3, 4, 5, 6, 7].
30. Implement a Python function to find the longest common prefix among a list of strings. For example, given the list ["flower", "flow", "flight"], the longest common prefix is "fl".