Coding Test – 1

Instructions:

1. In all the below questions there should be at least one user defined function (def func() )
2. Inputs are dynamic, can be change.
3. Create a new separate file on desktop and open it in Vs code.
4. You cannot open any folder in Vs code.

Q1. Write a Python program to calculate the final price of a product after applying a series of discounts based on the following conditions:

• If the product price is above Rs1000, apply a 10% discount.

• If the customer is a member, apply an additional 5% discount.

• If the purchase is made during a sale period, apply an additional 7% discount.

**Note**: Discount should be applicable on resultant price of previous discount.

Test Case:

Input: Product price = 1500

Is Customer member = Yes

Sale period = No

Output: Final Price = 1282.5

Q2. Write a Python program to find the sum of all prime digits in a given number.

Test Case:

Input: 437529

Output: 17 (because 2, 3, 5, 7 are prime numbers in that number (437529) and 2 + 3 + 5 + 7 = 17)

Q3. Write a Python program to rearrange the digits of a given number to form the largest possible number.

Test Case 1:

Input: 34219

Output: 94321

Test Case 2:

Input: 564

Output: 654

Q4.Write a Python program to find the missing number in an arithmetic sequence given a list with one missing element.

Test Case 1:

Input: [5, 10, 20, 25, 30, 35]

Output: 15

Test Case 2:

Input: [10, 20, 40, 50, 60, 80]

Output: 30, 70

Q5.Write a Python program to calculate the bonus for employees based on their performance rating, years of service, and job level.

* If the performance rating is A, and years of service are more than 10, bonus is 20%.
* If the performance rating is A, and years of service are between 5 and 10, bonus is 15%.
* If the performance rating is B, and job level is Senior, bonus is 12%.
* If the performance rating is B, and job level is Junior, bonus is  8%.
* If the performance rating is C, no bonus.

Test Case 1:

Input:

Salary = 50000,

Performance Rating = A,

Years of Service = 8,

Output: Bonus = 7500

Final Salary = 57500

Test Case 2:

Input:

Salary = 20000,

Performance Rating = B,

Job level = Junior

Output: Bonus = 1600

Final Salary = 21600

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Q5. If n = 5

Q6. If n = 7 Q7. If n = 7

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