

Enhanced Python Questions 1-20

1. Topics: Input/Output, lists, loops, if-else

Problem: Write a Python program that asks the user for 5 numbers, stores them in a list, removes duplicates, and prints the sorted list and the sum of all numbers.

Sample Input: 5 2 7 2 5

Sample Output: Sorted list without duplicates: [2, 5, 7]

Sum: 14

2. Topics: Lists, loops, dictionaries, if-else

Problem: Write a Python program that takes a list of student names and scores, calculates each student's grade using if-else, and prints a dictionary of names and grades.

Sample Input: John 85

Alice 92

Bob 70

Sample Output: {'John': 'B', 'Alice': 'A', 'Bob': 'C'}

3. Topics: Strings, loops, dictionaries

Problem: Write a Python program that asks for a sentence, counts the frequency of each word, and prints the most frequent word along with its count.

Sample Input: apple orange apple banana apple

Sample Output: Most frequent word: apple (3 times)

4. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of integers, filters out numbers divisible by 3, squares the remaining numbers, and prints the result.

Sample Input: 1 3 4 6 7

Sample Output: [1, 16, 49]

5. Topics: Dictionaries, loops, arithmetic operations, if-else

Problem: Write a Python program that stores a dictionary of employees and salaries, increases salaries above 50000 by 10%, and prints the updated dictionary.

Sample Input: {'John': 45000, 'Alice': 60000, 'Bob': 52000}

Sample Output: {'John': 45000, 'Alice': 66000.0, 'Bob': 57200.0}

6. Topics: Lists, loops, functions, dictionaries

Problem: Write a Python program that asks for a list of numbers, calculates the factorial of each number using a function, and prints a dictionary of number: factorial.

Sample Input: 3 5 2

Sample Output: {3: 6, 5: 120, 2: 2}

7. Topics: Strings, loops, dictionaries

Problem: Write a Python program that asks for 5 strings, counts vowels in each, stores the results in a dictionary, and prints the dictionary.

Sample Input: apple orange pear kiwi mango

Sample Output: {'apple': 2, 'orange': 3, 'pear': 2, 'kiwi': 2, 'mango': 2}

8. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of integers, separates even and odd numbers into two lists, and prints both lists along with their sums.

Sample Input: 1 2 3 4 5

Sample Output: Even numbers: [2, 4], Sum: 6

Odd numbers: [1, 3, 5], Sum: 9

9. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string, reverses it, converts it to uppercase, and prints both the original and modified string.

Sample Input: Python

Sample Output: Original: Python

Modified: NOHTYP

10. Topics: Dictionaries, lists, loops, if-else

Problem: Write a Python program that stores a list of dictionaries representing products (name, price), filters products under 100, and prints the filtered products.

Sample Input: [{'name': 'Pen', 'price': 50}, {'name': 'Book', 'price': 120}, {'name': 'Pencil', 'price': 30}]

Sample Output: [{'name': 'Pen', 'price': 50}, {'name': 'Pencil', 'price': 30}]

11. Topics: Tuples, lists, loops, if-else

Problem: Write a Python program that asks for 5 numbers, stores them in a tuple, converts it to a list, removes the largest number, and prints the updated list.

Sample Input: 5 7 3 9 2

Sample Output: [5, 7, 3, 2]

12. Topics: Lists, strings, loops, if-else

Problem: Write a Python program that takes a list of names, asks for a letter, and prints all names that start with that letter along with their lengths.

Sample Input: Alice Bob Charlie David Eva

Enter letter: C

Sample Output: Charlie: 7

13. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that asks for 5 numbers, calculates the average, identifies numbers above average, and prints both the average and above-average numbers.

Sample Input: 10 20 30 40 50

Sample Output: Average: 30.0

Numbers above average: [40, 50]

14. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that asks for a list of integers, prints the numbers divisible by 2 or 5, and calculates their sum and product.

Sample Input: 1 2 3 4 5

Sample Output: Numbers divisible by 2 or 5: [2, 4, 5]

Sum: 11

Product: 40

15. Topics: Lists, loops, if-else

Problem: Write a Python program that asks for a list of grades, counts how many students passed (≥ 60) and failed (< 60), and prints both counts.

Sample Input: 70 55 90 40 65

Sample Output: Passed: 3

Failed: 2

16. Topics: Lists, strings, loops

Problem: Write a Python program that stores a list of strings, prints the longest string, and creates a new list with strings in uppercase.

Sample Input: apple orange kiwi banana

Sample Output: Longest string: orange

Uppercase list: ['APPLE', 'ORANGE', 'KIWI', 'BANANA']

17. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that asks for a list of numbers, prints the cumulative sum at each index, and identifies the index where the cumulative sum exceeds 50.

Sample Input: 10 15 20 5 10

Sample Output: Cumulative sum: [10, 25, 45, 50, 60]

Index exceeding 50: 4

18. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a sentence, splits it into words, prints words longer than 4 letters, and reverses each word.

Sample Input: Python is amazing and fun

Sample Output: Words longer than 4 letters: ['Python', 'amazing']

Reversed words: ['nohtyP', 'gnizama']

19. Topics: Dictionaries, loops, input/output, arithmetic

Problem: Write a Python program that stores a dictionary of items and quantities, asks the user for

an item to buy, updates the quantity, and prints the updated dictionary.

Sample Input: {'Pen': 10, 'Book': 5, 'Pencil': 8}

Enter item: Book

Enter quantity to buy: 2

Sample Output: {'Pen': 10, 'Book': 3, 'Pencil': 8}

20. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that asks for 5 integers, prints the largest, smallest, average, and identifies numbers above the average.

Sample Input: 5 10 15 20 25

Sample Output: Largest: 25

Smallest: 5

Average: 15.0

Numbers above average: [20, 25]

Enhanced Python Questions 21-40

21. Topics: Lists, loops, arithmetic operations, functions

Problem: Write a Python program that takes a list of numbers, calculates the sum of squares using a function, and prints the result.

Sample Input: 1 2 3 4

Sample Output: Sum of squares: 30

22. Topics: Lists, loops, if-else, arithmetic

Problem: Write a Python program that takes a list of numbers, prints numbers divisible by 3 and 5, and calculates their product.

Sample Input: 3 5 10 15 7

Sample Output: Numbers divisible by 3 and 5: [15]

Product: 15

23. Topics: Strings, loops, dictionaries

Problem: Write a Python program that takes a list of strings, counts the occurrence of each character, and prints a dictionary with the results.

Sample Input: hello

Sample Output: {'h': 1, 'e': 1, 'l': 2, 'o': 1}

24. Topics: Lists, loops, if-else

Problem: Write a Python program that asks for a list of integers, prints numbers greater than the average, and stores them in a new list.

Sample Input: 10 20 30 40 50

Sample Output: Numbers above average: [40, 50]

25. Topics: Strings, loops, lists

Problem: Write a Python program that takes a sentence, reverses each word, and prints the modified sentence.

Sample Input: hello world python

Sample Output: olleh dlrow nohtyp

26. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of integers, calculates the cumulative product at each index, and prints the result.

Sample Input: 1 2 3 4

Sample Output: Cumulative product: [1, 2, 6, 24]

27. Topics: Lists, loops, functions

Problem: Write a Python program that asks for a list of integers, calculates the factorial of each

using a function, and prints a new list with the results.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

28. Topics: Lists, loops, if-else

Problem: Write a Python program that takes a list of numbers, prints the second smallest and second largest numbers, and calculates their difference.

Sample Input: 5 7 2 9 3

Sample Output: Second smallest: 3

Second largest: 7

Difference: 4

29. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of employees with ages, prints employees older than 30, and counts them.

Sample Input: {'John': 28, 'Alice': 35, 'Bob': 40}

Sample Output: Employees older than 30: ['Alice', 'Bob']

Count: 2

30. Topics: Strings, loops, lists, if-else

Problem: Write a Python program that asks for a string, prints all substrings of length 3, and counts how many contain a vowel.

Sample Input: python

Sample Output: Substrings of length 3: ['pyt', 'yth', 'tho', 'hon']

Substrings containing vowels: ['tho', 'hon']

31. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers, filters out negative numbers, calculates their sum and average, and prints results.

Sample Input: 5 -3 10 -2 7

Sample Output: Sum: 22

Average: 7.33

32. Topics: Strings, loops, lists

Problem: Write a Python program that takes a sentence, reverses each word, and prints the modified sentence.

Sample Input: hello world python

Sample Output: olleh dlrow nohtyp

33. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of products (name, price), calculates the total price, and prints items costing more than 100.

Sample Input: {'Book': 120, 'Pen': 50, 'Laptop': 1500}

Sample Output: Total price: 1670

Items above 100: ['Book', 'Laptop']

34. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers, uses a function to calculate their squares, and prints the resulting list.

Sample Input: 1 2 3 4

Sample Output: [1, 4, 9, 16]

35. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string, counts vowels, consonants, and digits, and prints the counts.

Sample Input: Python3

Sample Output: Vowels: 1

Consonants: 5

Digits: 1

36. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of integers, prints numbers divisible by 2 or 7, and calculates their sum.

Sample Input: 1 2 7 14 5

Sample Output: Numbers divisible by 2 or 7: [2, 7, 14]

Sum: 23

37. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of numbers, prints numbers less than 50, and calculates the average of these numbers.

Sample Input: 10 60 30 70 20

Sample Output: Numbers less than 50: [10, 30, 20]

Average: 20.0

38. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of student scores, calculates the average, and prints students scoring above average.

Sample Input: {'John': 70, 'Alice': 90, 'Bob': 50}

Sample Output: Average score: 70.0

Students above average: ['Alice']

39. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string, prints it in uppercase if its length is even, and lowercase if odd.

Sample Input: Python

Sample Output: PYTHON

40. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers, uses a function to check if each number is prime, and prints the results.

Sample Input: 2 4 5 6

Sample Output: 2: Prime

4: Not Prime

5: Prime

6: Not Prime

Enhanced Python Questions 41-70

41. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of numbers, prints numbers divisible by 4 and 6, and stores them in a new list.

Sample Input: 12 24 18 8 6

Sample Output: Numbers divisible by 4 and 6: [12, 24]

42. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a list of words, prints words containing the letter "a", and creates a new list with their lengths.

Sample Input: apple banana kiwi orange

Sample Output: Words containing 'a': ['apple', 'banana', 'orange']

Lengths: [5, 6, 6]

43. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers, prints numbers whose squares are greater than 50, and calculates their sum.

Sample Input: 5 6 2 8

Sample Output: Numbers with squares > 50: [6, 8]

Sum: 14

44. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a string, prints characters at even indices, and creates a new string with these characters reversed.

Sample Input: abcdef

Sample Output: Even index chars: ace

Reversed: eca

45. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a list of product dictionaries (name, price), prints products with price above the average, and counts them.

Sample Input: [{'name': 'Pen', 'price': 50}, {'name': 'Book', 'price': 120}, {'name': 'Laptop', 'price': 1500}]

Sample Output: Products above average: ['Book', 'Laptop']

Count: 2

46. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of numbers, prints the first number greater than 20, the last number less than 50, and their difference.

Sample Input: 10 25 40 60 15

Sample Output: First > 20: 25

Last < 50: 40

Difference: 15

47. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string, counts vowels, consonants, and digits, and prints them.

Sample Input: Python3

Sample Output: Vowels: 1

Consonants: 5

Digits: 1

48. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of student names and scores, prints the top 3 scores, and lists the corresponding student names.

Sample Input: {'John': 70, 'Alice': 90, 'Bob': 50, 'Eve': 95}

Sample Output: Top 3 scores: [95, 90, 70]

Students: ['Eve', 'Alice', 'John']

49. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers, prints numbers divisible by 5 or 7, and calculates the sum and product of these numbers.

Sample Input: 5 7 10 14 3

Sample Output: Numbers divisible by 5 or 7: [5, 7, 10, 14]

Sum: 36

Product: 4900

50. Topics: Lists, strings, loops

Problem: Write a Python program that stores a list of strings, prints strings longer than 5 characters, reverses them, and prints the results.

Sample Input: apple banana kiwi orange

Sample Output: Strings longer than 5: ['banana', 'orange']

Reversed: ['ananab', 'egnaro']

51. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that asks for a list of integers, prints numbers divisible by 3 or 4, and calculates their sum and product.

Sample Input: 3 6 8 9 12

Sample Output: Numbers divisible by 3 or 4: [3, 6, 8, 9, 12]

Sum: 38

Product: 15552

52. Topics: Strings, loops, lists

Problem: Write a Python program that takes a sentence, counts the number of words longer than 4 characters, and prints the result.

Sample Input: The quick brown fox jumps over the lazy dog

Sample Output: Words longer than 4: 4

53. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of integers, calculates the sum of even numbers and sum of odd numbers, and prints both.

Sample Input: 1 2 3 4 5 6

Sample Output: Sum of even: 12

Sum of odd: 9

54. Topics: Strings, loops, dictionaries

Problem: Write a Python program that takes a list of words and prints a dictionary with the length of each word.

Sample Input: apple orange kiwi

Sample Output: {'apple': 5, 'orange': 6, 'kiwi': 4}

55. Topics: Lists, loops, functions

Problem: Write a Python program that asks for a list of numbers and uses a function to return the largest number, then prints it.

Sample Input: 3 7 2 9 5

Sample Output: Largest number: 9

56. Topics: Lists, loops, if-else

Problem: Write a Python program that takes a list of numbers, prints numbers greater than 10, and counts them.

Sample Input: 5 12 8 15 20

Sample Output: Numbers greater than 10: [12, 15, 20]

Count: 3

57. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of products (name, quantity), increases quantity by 5 if less than 10, and prints the updated dictionary.

Sample Input: {'Pen': 5, 'Book': 12, 'Pencil': 8}

Sample Output: {'Pen': 10, 'Book': 12, 'Pencil': 13}

58. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a sentence, prints each word reversed.

Sample Input: Hello world python

Sample Output: olleH dlrow nohtyp

59. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints numbers whose square is even.

Sample Input: 1 2 3 4 5

Sample Output: [2, 4]

60. Topics: Lists, loops, functions

Problem: Write a Python program that asks for a list of numbers and uses a function to return their average.

Sample Input: 10 20 30 40

Sample Output: Average: 25.0

61. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string and prints it in lowercase if it contains any uppercase letters, otherwise prints in uppercase.

Sample Input: HelloWorld

Sample Output: helloworld

62. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of integers and prints the difference between the largest and smallest number.

Sample Input: 5 10 3 8 2

Sample Output: Difference: 8

63. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of students and their scores and prints names of students who scored below 60.

Sample Input: {'John': 70, 'Alice': 55, 'Bob': 50}

Sample Output: ['Alice', 'Bob']

64. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that asks for a list of numbers and prints the sum of all numbers divisible by 5.

Sample Input: 5 7 10 12 15

Sample Output: Sum: 30

65. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a string and prints all characters that are vowels.

Sample Input: Programming

Sample Output: o a i

66. Topics: Lists, loops, functions

Problem: Write a Python program that asks for a list of numbers and prints a new list containing the square of each number.

Sample Input: 2 3 4

Sample Output: [4, 9, 16]

67. Topics: Lists, loops, if-else

Problem: Write a Python program that takes a list of numbers and prints True if all numbers are positive, otherwise False.

Sample Input: 5 10 3 8 -2

Sample Output: False

68. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of items with prices and applies a 10% discount to items costing more than 100.

Sample Input: {'Book': 120, 'Pen': 50, 'Laptop': 1500}

Sample Output: {'Book': 108.0, 'Pen': 50, 'Laptop': 1350.0}

69. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of integers and prints all numbers that are both even and divisible by 3.

Sample Input: 2 3 6 9 12

Sample Output: [6, 12]

70. Topics: Strings, loops, lists

Problem: Write a Python program that takes a sentence and prints words in reverse order.

Sample Input: Hello world python

Sample Output: python world Hello

Enhanced Python Questions 71-100

71. Topics: Lists, loops, functions

Problem: Write a Python program that asks for a list of numbers and prints a new list containing only the prime numbers using a function.

Sample Input: 2 3 4 5 6 7

Sample Output: [2, 3, 5, 7]

72. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string and prints "Yes" if it is a palindrome, otherwise "No".

Sample Input: racecar

Sample Output: Yes

73. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of integers and prints all numbers divisible by 3 but not by 2.

Sample Input: 3 6 9 12 15

Sample Output: [3, 9, 15]

74. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of employees with salaries and prints names of employees earning more than 60000.

Sample Input: {'John': 45000, 'Alice': 70000, 'Bob': 60000}

Sample Output: ['Alice']

75. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints the sum of numbers at even indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 9

76. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a sentence and prints each word capitalized.

Sample Input: hello world python

Sample Output: Hello World Python

77. Topics: Lists, loops, if-else

Problem: Write a Python program that takes a list of numbers and prints True if any number is negative, otherwise False.

Sample Input: 5 10 -3 8 7

Sample Output: True

78. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of items with prices and calculates the total cost after a 5% tax on each item.

Sample Input: {'Book': 100, 'Pen': 50, 'Laptop': 1000}

Sample Output: Total cost with tax: 1152.5

79. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of integers and prints numbers divisible by 2 or 3 but not by 5.

Sample Input: 2 3 5 6 10 12

Sample Output: [2, 3, 6, 12]

80. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a string and prints all words with length exactly 4.

Sample Input: this is a test code python

Sample Output: ['this', 'test', 'code']

81. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers and uses a function to return the maximum number.

Sample Input: 5 9 2 8 3

Sample Output: Maximum number: 9

82. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints the product of all odd numbers.

Sample Input: 1 2 3 4 5

Sample Output: Product of odd numbers: 15

83. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of students with scores and prints the names of students with scores above 80.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 90}

Sample Output: ['Alice', 'Bob']

84. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string and prints it without vowels.

Sample Input: Programming

Sample Output: Prgrmmng

85. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of integers and prints the sum of squares of even numbers.

Sample Input: 1 2 3 4 5

Sample Output: 20

86. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a sentence and prints words starting with a capital letter.

Sample Input: Hello world Python is Fun

Sample Output: ['Hello', 'Python', 'Fun']

87. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers and uses a function to return their sum.

Sample Input: 1 2 3 4 5

Sample Output: Sum: 15

88. Topics: Lists, loops, if-else

Problem: Write a Python program that takes a list of numbers and prints the smallest odd number.

Sample Input: 2 3 4 5 6

Sample Output: 3

89. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of items and quantities, doubles the quantity if it is less than 5, and prints the updated dictionary.

Sample Input: {'Pen': 3, 'Book': 6, 'Pencil': 2}

Sample Output: {'Pen': 6, 'Book': 6, 'Pencil': 4}

90. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a sentence and prints the number of words containing the letter 'e'.

Sample Input: The quick brown fox jumps over the lazy dog

Sample Output: 4

91. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints the sum of numbers divisible by 4.

Sample Input: 4 5 8 12 15

Sample Output: Sum: 24

92. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers and uses a function to return a new list containing only even numbers.

Sample Input: 1 2 3 4 5 6

Sample Output: [2, 4, 6]

93. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string and prints True if it contains both uppercase and lowercase letters.

Sample Input: HelloWorld

Sample Output: True

94. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints the maximum difference between any two numbers.

Sample Input: 3 9 2 8 5

Sample Output: Maximum difference: 7

95. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of students with scores and prints names of students scoring below 50.

Sample Input: {'John': 70, 'Alice': 45, 'Bob': 30}

Sample Output: ['Alice', 'Bob']

96. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that takes a list of integers and prints True if any number is divisible by both 2 and 3.

Sample Input: 2 3 6 9 12

Sample Output: True

97. Topics: Strings, loops, lists

Problem: Write a Python program that asks for a sentence and prints the first letter of each word.

Sample Input: Hello world python

Sample Output: Hwp

98. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers and uses a function to return the smallest number.

Sample Input: 5 9 2 8 3

Sample Output: Smallest number: 2

99. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints the sum of all numbers

divisible by 3.

Sample Input: 3 4 6 7 9

Sample Output: Sum: 18

100. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string and prints True if it is a palindrome ignoring spaces and capitalization.

Sample Input: A man a plan a canal Panama

Sample Output: True

Enhanced Python Questions 101-150

101. Topics: Lists, loops, if-else

Problem: Write a Python program that takes a list of integers and prints numbers that are prime.

Sample Input: 2 3 4 5 6

Sample Output: [2, 3, 5]

102. Topics: Strings, loops, if-else

Problem: Write a Python program that asks for a string and prints True if it is a palindrome, otherwise False.

Sample Input: racecar

Sample Output: True

103. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that takes a list of numbers and prints numbers divisible by 2 but not 4.

Sample Input: 2 4 6 8 10

Sample Output: [2, 6, 10]

104. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that stores a dictionary of students with scores and prints the names of students with scores above 70.

Sample Input: {'John': 65, 'Alice': 85, 'Bob': 90}

Sample Output: ['Alice', 'Bob']

105. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that calculates the sum of odd numbers in a list.

Sample Input: 1 2 3 4 5

Sample Output: Sum of odd numbers: 9

106. Topics: Strings, loops, lists

Problem: Write a Python program that takes a sentence and prints each word reversed.

Sample Input: hello world python

Sample Output: olleh dlrow nohtyp

107. Topics: Lists, loops, functions

Problem: Write a Python program that asks for a list of numbers and returns a list of squares using a function.

Sample Input: 1 2 3

Sample Output: [1, 4, 9]

108. Topics: Lists, loops, if-else

Problem: Write a Python program that prints numbers in a list that are divisible by 3 and 5.

Sample Input: 5 10 15 20 30

Sample Output: [15, 30]

109. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that stores a dictionary of items with prices and applies a discount of 10% to items costing more than 100.

Sample Input: {'Book': 120, 'Pen': 50, 'Laptop': 1500}

Sample Output: {'Book': 108.0, 'Pen': 50, 'Laptop': 1350.0}

110. Topics: Strings, loops, lists

Problem: Write a Python program that prints words in a sentence that start with a vowel.

Sample Input: apple banana orange kiwi

Sample Output: ['apple', 'orange']

111. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that prints numbers in a list that are multiples of both 2 and 3.

Sample Input: 2 3 6 8 12

Sample Output: [6, 12]

112. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains both uppercase and lowercase letters.

Sample Input: HelloWorld

Sample Output: True

113. Topics: Lists, loops, functions

Problem: Write a Python program that uses a function to return the maximum number from a list.

Sample Input: 3 7 2 9 5

Sample Output: Maximum number: 9

114. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that calculates the sum of numbers at even indices.

Sample Input: 1 2 3 4 5 6

Sample Output: Sum of numbers at even indices: 9

115. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints the names of employees earning more than 50000.

Sample Input: {'John': 45000, 'Alice': 70000, 'Bob': 60000}

Sample Output: ['Alice', 'Bob']

116. Topics: Strings, loops, lists

Problem: Write a Python program that prints the first character of each word in a sentence.

Sample Input: Hello world python

Sample Output: Hwp

117. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number in a list is negative.

Sample Input: 5 -3 10 8

Sample Output: True

118. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that calculates total price after applying 5% tax to each item in a dictionary.

Sample Input: {'Book': 100, 'Pen': 50, 'Laptop': 1000}

Sample Output: Total cost with tax: 1152.5

119. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 4 or 6.

Sample Input: 4 6 7 8 9 12

Sample Output: [4, 6, 8, 12]

120. Topics: Strings, loops, lists

Problem: Write a Python program that prints words with length exactly 5 in a sentence.

Sample Input: Hello world python code

Sample Output: ['Hello', 'world']

121. Topics: Lists, loops, functions

Problem: Write a Python program that uses a function to calculate the factorial of numbers in a list.

Sample Input: 3 4 5

Sample Output: [6, 24, 120]

122. Topics: Lists, loops, if-else

Problem: Write a Python program that prints the largest odd number in a list.

Sample Input: 2 3 4 5 6

Sample Output: 5

123. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that doubles quantities in a dictionary if quantity < 5.

Sample Input: {'Pen': 3, 'Book': 6, 'Pencil': 2}

Sample Output: {'Pen': 6, 'Book': 6, 'Pencil': 4}

124. Topics: Strings, loops, lists

Problem: Write a Python program that counts words containing the letter 'e' in a sentence.

Sample Input: The quick brown fox jumps over the lazy dog

Sample Output: 4

125. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that sums numbers divisible by 3 in a list.

Sample Input: 3 4 6 7 9

Sample Output: Sum: 18

126. Topics: Lists, loops, functions

Problem: Write a Python program that returns a new list of even numbers from a list using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [2, 4, 6]

127. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string contains both uppercase and lowercase letters.

Sample Input: HelloWorld

Sample Output: True

128. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the maximum difference between any two numbers in a list.

Sample Input: 3 9 2 8 5

Sample Output: Maximum difference: 7

129. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 50 in a dictionary.

Sample Input: {'John': 70, 'Alice': 45, 'Bob': 30}

Sample Output: ['Alice', 'Bob']

130. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that prints True if any number is divisible by both 2 and 3.

Sample Input: 2 3 6 9 12

Sample Output: True

131. Topics: Strings, loops, lists

Problem: Write a Python program that prints the first letter of each word in a sentence.

Sample Input: Hello world python

Sample Output: Hwp

132. Topics: Lists, loops, functions

Problem: Write a Python program that returns the smallest number from a list using a function.

Sample Input: 5 9 2 8 3

Sample Output: Smallest number: 2

133. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 3 in a list.

Sample Input: 3 4 6 7 9

Sample Output: Sum: 18

134. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: A man a plan a canal Panama

Sample Output: True

135. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers in a list that are multiples of 5 but not 10.

Sample Input: 5 10 15 20 25

Sample Output: [5, 15, 25]

136. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words longer than 6 characters in a sentence.

Sample Input: Programming in Python is amazing

Sample Output: ['Programming', 'amazing']

137. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of cubes of numbers using a function.

Sample Input: 1 2 3

Sample Output: [1, 8, 27]

138. Topics: Lists, loops, if-else

Problem: Write a Python program that prints the smallest even number in a list.

Sample Input: 5 4 8 9 2

Sample Output: 2

139. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 5% for items below 100 in a dictionary.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 52.5, 'Book': 120, 'Pencil': 84.0}

140. Topics: Strings, loops, lists

Problem: Write a Python program that prints words in a sentence that start and end with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

141. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that calculates the sum of squares of numbers divisible by 2 in a list.

Sample Input: 1 2 3 4 5 6

Sample Output: 56

142. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of factorials using a function.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

143. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

144. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: Second largest: 7

145. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 80.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 75}

Sample Output: ['John', 'Bob']

146. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 7 but not both.

Sample Input: 3 7 9 14 21

Sample Output: [3, 7, 9, 14]

147. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 5 letters.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

148. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers multiplied by 10 using a function.

Sample Input: 1 2 3 4

Sample Output: [10, 20, 30, 40]

149. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive in a list.

Sample Input: 1 2 3 -4 5

Sample Output: False

150. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

Enhanced Python Questions 151-200

151. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers and returns a list of their squares using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 4, 9, 16]

152. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring case.

Sample Input: Madam

Sample Output: True

153. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 but not 5.

Sample Input: 2 4 5 10 12

Sample Output: [2, 4, 12]

154. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students who scored below 60.

Sample Input: {'John': 70, 'Alice': 50, 'Bob': 45}

Sample Output: ['Alice', 'Bob']

155. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that calculates the sum of even numbers in a list.

Sample Input: 1 2 3 4 5 6

Sample Output: Sum of even numbers: 12

156. Topics: Strings, loops, lists

Problem: Write a Python program that prints words longer than 4 letters in a sentence.

Sample Input: The quick brown fox jumps

Sample Output: ['quick', 'brown', 'jumps']

157. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if a list contains any negative numbers.

Sample Input: 5 -3 7 8

Sample Output: True

158. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that applies a 10% tax to all items in a dictionary and prints the

updated dictionary.

Sample Input: {'Book': 100, 'Pen': 50, 'Laptop': 1000}

Sample Output: {'Book': 110.0, 'Pen': 55.0, 'Laptop': 1100.0}

159. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 7 but not both.

Sample Input: 3 7 9 14 21

Sample Output: [3, 7, 9, 14]

160. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words that start with a vowel.

Sample Input: apple banana orange kiwi

Sample Output: ['apple', 'orange']

161. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that prints numbers divisible by 4 and even.

Sample Input: 2 4 6 8 12

Sample Output: [4, 8, 12]

162. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains both uppercase and lowercase letters.

Sample Input: HelloWorld

Sample Output: True

163. Topics: Lists, loops, functions

Problem: Write a Python program that returns the maximum number from a list using a function.

Sample Input: 3 7 2 9 5

Sample Output: Maximum number: 9

164. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers at odd indices.

Sample Input: 1 2 3 4 5 6

Sample Output: Sum at odd indices: 12

165. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of employees earning more than 60000.

Sample Input: {'John': 45000, 'Alice': 70000, 'Bob': 65000}

Sample Output: ['Alice', 'Bob']

166. Topics: Strings, loops, lists

Problem: Write a Python program that prints the last letter of each word in a sentence.

Sample Input: Hello world python

Sample Output: o d n

167. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 -4 5

Sample Output: False

168. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 5% for all items below 100.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 52.5, 'Book': 120, 'Pencil': 84.0}

169. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that prints numbers divisible by 2 and 3.

Sample Input: 2 3 6 8 12

Sample Output: [6, 12]

170. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words with length exactly 5.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

171. Topics: Lists, loops, functions

Problem: Write a Python program that uses a function to return a list of factorials.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

172. Topics: Lists, loops, if-else

Problem: Write a Python program that prints the largest even number in a list.

Sample Input: 5 4 8 9 2

Sample Output: 8

173. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases quantities by 10% if quantity < 5 in a dictionary.

Sample Input: {'Pen': 3, 'Book': 6, 'Pencil': 2}

Sample Output: {'Pen': 3.3, 'Book': 6, 'Pencil': 2.2}

174. Topics: Strings, loops, lists

Problem: Write a Python program that counts words starting with a vowel in a sentence.

Sample Input: Apple is amazing and open

Sample Output: 4

175. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of squares of odd numbers.

Sample Input: 1 2 3 4 5

Sample Output: 35

176. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers doubled using a function.

Sample Input: 1 2 3 4

Sample Output: [2, 4, 6, 8]

177. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

178. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second smallest number in a list.

Sample Input: 5 9 2 8 3

Sample Output: Second smallest: 3

179. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 50 and 80.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 65}

Sample Output: ['John', 'Bob']

180. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 5 but not both.

Sample Input: 3 5 6 9 10

Sample Output: [3, 5, 9, 10]

Enhanced Python Questions 201-250

201. Topics: Lists, loops, functions

Problem: Write a Python program that takes a list of numbers and returns a list of their cubes using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 8, 27, 64]

202. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and case.

Sample Input: A man a plan a canal Panama

Sample Output: True

203. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 5 but not by 10.

Sample Input: 5 10 15 20 25

Sample Output: [5, 15, 25]

204. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring above 75.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 90}

Sample Output: ['Alice', 'Bob']

205. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that calculates the sum of numbers at even indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 9

206. Topics: Strings, loops, lists

Problem: Write a Python program that prints words with length exactly 4.

Sample Input: This is a test code

Sample Output: ['This', 'test', 'code']

207. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number in a list is divisible by both 2 and 3.

Sample Input: 2 3 6 9 12

Sample Output: True

208. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 10% for items below 100 in a dictionary.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 55.0, 'Book': 120, 'Pencil': 88.0}

209. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 4 but not both.

Sample Input: 3 4 6 8 12

Sample Output: [3, 4, 8]

210. Topics: Strings, loops, lists

Problem: Write a Python program that prints words starting and ending with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

211. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 7 in a list.

Sample Input: 7 14 21 8 10

Sample Output: Sum: 42

212. Topics: Lists, loops, functions

Problem: Write a Python program that returns a new list of numbers squared using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 4, 9, 16]

213. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

214. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: Second largest: 7

215. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 90.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 95}

Sample Output: ['John', 'Alice']

216. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 or 5 but not both.

Sample Input: 2 5 6 10 12

Sample Output: [2, 6, 5, 12]

217. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 6 letters.

Sample Input: Python coding example output

Sample Output: ['Python', 'coding', 'output']

218. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of factorials of numbers using a function.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

219. Topics: Lists, loops, if-else

Problem: Write a Python program that prints the smallest odd number in a list.

Sample Input: 2 3 4 5 6

Sample Output: 3

220. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that applies a 10% increase to prices below 100 in a dictionary.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 55.0, 'Book': 120, 'Pencil': 88.0}

221. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 and 5.

Sample Input: 3 5 10 15 20

Sample Output: [15]

222. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains both upper and lower case letters.

Sample Input: HelloWorld

Sample Output: True

223. Topics: Lists, loops, functions

Problem: Write a Python program that returns the largest number from a list using a function.

Sample Input: 3 7 2 9 5

Sample Output: Maximum number: 9

224. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers at odd indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 12

225. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of employees earning more than 50000.

Sample Input: {'John': 45000, 'Alice': 70000, 'Bob': 65000}

Sample Output: ['Alice', 'Bob']

226. Topics: Strings, loops, lists

Problem: Write a Python program that prints the last character of each word.

Sample Input: Hello world python

Sample Output: o d n

227. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 4 5

Sample Output: True

228. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that applies a 5% discount to prices above 100.

Sample Input: {'Book': 120, 'Pen': 50, 'Laptop': 1500}

Sample Output: {'Book': 114.0, 'Pen': 50, 'Laptop': 1425.0}

229. Topics: Lists, loops, arithmetic operations, if-else

Problem: Write a Python program that prints numbers divisible by 2 or 3.

Sample Input: 2 3 5 6 12

Sample Output: [2, 3, 6, 12]

230. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words starting and ending with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

231. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 7 in a list.

Sample Input: 7 14 21 8 10

Sample Output: 42

232. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of squares using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 4, 9, 16]

233. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

234. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: 7

235. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 90.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 95}

Sample Output: ['John', 'Alice']

236. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 5 but not both.

Sample Input: 3 5 6 9 10

Sample Output: [3, 5, 6, 9, 10]

237. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 5 letters.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

238. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers multiplied by 10 using a function.

Sample Input: 1 2 3 4

Sample Output: [10, 20, 30, 40]

239. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 -4 5

Sample Output: False

240. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

Enhanced Python Questions 251-300

251. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of cubes of numbers using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 8, 27, 64]

252. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and case.

Sample Input: Never odd or even

Sample Output: True

253. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 but not 3.

Sample Input: 2 3 4 6 8 9

Sample Output: [2, 4, 8]

254. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 50.

Sample Input: {'John': 70, 'Alice': 45, 'Bob': 30}

Sample Output: ['Alice', 'Bob']

255. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers at even indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 9

256. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words longer than 5 letters in a sentence.

Sample Input: Programming in Python is amazing

Sample Output: ['Programming', 'amazing']

257. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number in a list is negative.

Sample Input: 5 -3 10 8

Sample Output: True

258. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that applies a 5% tax to all items in a dictionary.

Sample Input: {'Book': 100, 'Pen': 50, 'Laptop': 1000}

Sample Output: {'Book': 105.0, 'Pen': 52.5, 'Laptop': 1050.0}

259. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 5 but not both.

Sample Input: 3 5 6 9 10

Sample Output: [3, 5, 6, 9, 10]

260. Topics: Strings, loops, lists

Problem: Write a Python program that prints words starting and ending with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

261. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 4.

Sample Input: 4 8 12 15

Sample Output: 24

262. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of factorials using a function.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

263. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

264. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: 7

265. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 90.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 95}

Sample Output: ['John', 'Alice']

266. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 or 3 but not both.

Sample Input: 2 3 5 6 12

Sample Output: [2, 3, 5, 12]

267. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 5 letters.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

268. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers multiplied by 10 using a function.

Sample Input: 1 2 3 4

Sample Output: [10, 20, 30, 40]

269. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 -4 5

Sample Output: False

270. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

271. Topics: Lists, loops, arithmetic operations, functions

Problem: Write a Python program that returns a list of squares of numbers divisible by 3 using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [3, 6]

272. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains at least one digit.

Sample Input: Hello123

Sample Output: True

273. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of even numbers from a list using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [2, 4, 6]

274. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the maximum difference between any two numbers in a list.

Sample Input: 3 9 2 8 5

Sample Output: Maximum difference: 7

275. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 50.

Sample Input: {'John': 70, 'Alice': 45, 'Bob': 30}

Sample Output: ['Alice', 'Bob']

276. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number is divisible by both 2 and 5.

Sample Input: 2 3 5 10 15

Sample Output: True

277. Topics: Strings, loops, lists

Problem: Write a Python program that prints the first letter of each word in a sentence.

Sample Input: Hello world python

Sample Output: Hwp

278. Topics: Lists, loops, functions

Problem: Write a Python program that returns the smallest number from a list using a function.

Sample Input: 5 9 2 8 3

Sample Output: Smallest number: 2

279. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 3 in a list.

Sample Input: 3 4 6 7 9

Sample Output: Sum: 18

280. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: A man a plan a canal Panama

Sample Output: True

281. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers in a list that are multiples of 5 but not 10.

Sample Input: 5 10 15 20 25

Sample Output: [5, 15, 25]

282. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words longer than 6 characters.

Sample Input: Programming in Python is amazing

Sample Output: ['Programming', 'amazing']

283. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of cubes using a function.

Sample Input: 1 2 3

Sample Output: [1, 8, 27]

284. Topics: Lists, loops, if-else

Problem: Write a Python program that prints the smallest even number in a list.

Sample Input: 5 4 8 9 2

Sample Output: 2

285. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 5% for items below 100.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 52.5, 'Book': 120, 'Pencil': 84.0}

286. Topics: Strings, loops, lists

Problem: Write a Python program that prints words in a sentence that start and end with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

287. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of squares of numbers divisible by 2.

Sample Input: 1 2 3 4 5 6

Sample Output: 56

288. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of factorials using a function.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

289. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

290. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: 7

Enhanced Python Questions 301-350

301. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of squares of numbers using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 4, 9, 16]

302. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: Never odd or even

Sample Output: True

303. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 but not by 5.

Sample Input: 2 3 4 5 10 12

Sample Output: [2, 4, 12]

304. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 60.

Sample Input: {'John': 70, 'Alice': 50, 'Bob': 45}

Sample Output: ['Alice', 'Bob']

305. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers at odd indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 12

306. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words with length exactly 4.

Sample Input: This is a test code

Sample Output: ['This', 'test', 'code']

307. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number in a list is divisible by both 2 and 3.

Sample Input: 2 3 6 9 12

Sample Output: True

308. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 10% for items below 100 in a dictionary.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 55.0, 'Book': 120, 'Pencil': 88.0}

309. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 4 but not both.

Sample Input: 3 4 6 8 12

Sample Output: [3, 4, 8]

310. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words starting and ending with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

311. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 7.

Sample Input: 7 14 21 8 10

Sample Output: 42

312. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of factorials using a function.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

313. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

314. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: 7

315. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 90.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 95}

Sample Output: ['John', 'Alice']

316. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 or 3 but not both.

Sample Input: 2 3 5 6 12

Sample Output: [2, 3, 5, 12]

317. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 5 letters.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

318. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers multiplied by 10 using a function.

Sample Input: 1 2 3 4

Sample Output: [10, 20, 30, 40]

319. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 -4 5

Sample Output: False

320. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

321. Topics: Lists, loops, arithmetic operations, functions

Problem: Write a Python program that returns a list of squares of numbers divisible by 3 using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [3, 6]

322. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains at least one digit.

Sample Input: Hello123

Sample Output: True

323. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of even numbers using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [2, 4, 6]

324. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the maximum difference between any two numbers.

Sample Input: 3 9 2 8 5

Sample Output: 7

325. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 50.

Sample Input: {'John': 70, 'Alice': 45, 'Bob': 30}

Sample Output: ['Alice', 'Bob']

326. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number is divisible by both 2 and 5.

Sample Input: 2 3 5 10 15

Sample Output: True

327. Topics: Strings, loops, lists

Problem: Write a Python program that prints the first letter of each word in a sentence.

Sample Input: Hello world python

Sample Output: Hwp

328. Topics: Lists, loops, functions

Problem: Write a Python program that returns the smallest number using a function.

Sample Input: 5 9 2 8 3

Sample Output: 2

329. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 3 in a list.

Sample Input: 3 4 6 7 9

Sample Output: 18

330. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: A man a plan a canal Panama

Sample Output: True

Enhanced Python Questions 351-400

351. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of squares using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 4, 9, 16]

352. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and case.

Sample Input: Madam

Sample Output: True

353. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 but not by 3.

Sample Input: 2 3 4 6 8 9

Sample Output: [2, 4, 8]

354. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 60.

Sample Input: {'John': 70, 'Alice': 50, 'Bob': 45}

Sample Output: ['Alice', 'Bob']

355. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers at even indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 9

356. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words with length exactly 4.

Sample Input: This is a test code

Sample Output: ['This', 'test', 'code']

357. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number in a list is divisible by both 2 and 3.

Sample Input: 2 3 6 9 12

Sample Output: True

358. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 10% for items below 100 in a dictionary.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 55.0, 'Book': 120, 'Pencil': 88.0}

359. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 4 but not both.

Sample Input: 3 4 6 8 12

Sample Output: [3, 4, 8]

360. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words starting and ending with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

361. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 7.

Sample Input: 7 14 21 8 10

Sample Output: 42

362. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of factorials using a function.

Sample Input: 2 3 4

Sample Output: [2, 6, 24]

363. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

364. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: 7

365. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 90.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 95}

Sample Output: ['John', 'Alice']

366. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 or 3 but not both.

Sample Input: 2 3 5 6 12

Sample Output: [2, 3, 5, 12]

367. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 5 letters.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

368. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers multiplied by 10 using a function.

Sample Input: 1 2 3 4

Sample Output: [10, 20, 30, 40]

369. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 -4 5

Sample Output: False

370. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

371. Topics: Lists, loops, arithmetic operations, functions

Problem: Write a Python program that returns a list of squares of numbers divisible by 3 using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [3, 6]

372. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains at least one digit.

Sample Input: Hello123

Sample Output: True

373. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of even numbers using a function.

Sample Input: 1 2 3 4 5 6

Sample Output: [2, 4, 6]

374. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the maximum difference between any two numbers.

Sample Input: 3 9 2 8 5

Sample Output: 7

375. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 50.

Sample Input: {'John': 70, 'Alice': 45, 'Bob': 30}

Sample Output: ['Alice', 'Bob']

376. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number is divisible by both 2 and 5.

Sample Input: 2 3 5 10 15

Sample Output: True

377. Topics: Strings, loops, lists

Problem: Write a Python program that prints the first letter of each word in a sentence.

Sample Input: Hello world python

Sample Output: Hwp

378. Topics: Lists, loops, functions

Problem: Write a Python program that returns the smallest number using a function.

Sample Input: 5 9 2 8 3

Sample Output: 2

379. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 3 in a list.

Sample Input: 3 4 6 7 9

Sample Output: 18

380. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: A man a plan a canal Panama

Sample Output: True

Enhanced Python Questions 401-450

401. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of cubes using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 8, 27, 64]

402. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: Never odd or even

Sample Output: True

403. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 but not by 3.

Sample Input: 2 3 4 6 8 9

Sample Output: [2, 4, 8]

404. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints names of students scoring below 60.

Sample Input: {'John': 70, 'Alice': 50, 'Bob': 45}

Sample Output: ['Alice', 'Bob']

405. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers at odd indices.

Sample Input: 1 2 3 4 5 6

Sample Output: 12

406. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words with length exactly 4.

Sample Input: This is a test code

Sample Output: ['This', 'test', 'code']

407. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number in a list is divisible by both 2 and 3.

Sample Input: 2 3 6 9 12

Sample Output: True

408. Topics: Dictionaries, loops, arithmetic operations

Problem: Write a Python program that increases prices by 10% for items below 100 in a dictionary.

Sample Input: {'Pen': 50, 'Book': 120, 'Pencil': 80}

Sample Output: {'Pen': 55.0, 'Book': 120, 'Pencil': 88.0}

409. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 3 or 4 but not both.

Sample Input: 3 4 6 8 12

Sample Output: [3, 4, 8]

410. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words starting and ending with a vowel.

Sample Input: Apple is amazing and open

Sample Output: ['Apple', 'amazing', 'and', 'open']

411. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the sum of numbers divisible by 7.

Sample Input: 7 14 21 8 10

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Sample Input: 2 3 4

Sample Output: [2, 6, 24]

413. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

Sample Output: True

414. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the second largest number in a list.

Sample Input: 3 7 2 9 5

Sample Output: 7

415. Topics: Dictionaries, loops, if-else

Problem: Write a Python program that prints students with scores between 60 and 90.

Sample Input: {'John': 70, 'Alice': 85, 'Bob': 95}

Sample Output: ['John', 'Alice']

416. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 or 3 but not both.

Sample Input: 2 3 5 6 12

Sample Output: [2, 3, 5, 12]

417. Topics: Strings, loops, lists

Problem: Write a Python program that prints all words containing exactly 5 letters.

Sample Input: Hello world python code data

Sample Output: ['Hello', 'world']

418. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of numbers multiplied by 10 using a function.

Sample Input: 1 2 3 4

Sample Output: [10, 20, 30, 40]

419. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if all numbers are positive.

Sample Input: 1 2 3 -4 5

Sample Output: False

420. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains only alphabets.

Sample Input: HelloWorld

Sample Output: True

Enhanced Python Questions 451-500

451. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of cubes using a function.

Sample Input: 1 2 3 4

Sample Output: [1, 8, 27, 64]

452. Topics: Strings, loops, if-else

Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

Sample Input: Madam In Eden Im Adam

Sample Output: True

453. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints numbers divisible by 2 but not by 3.

Sample Input: 2 3 4 6 8 9

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Problem: Write a Python program that prints True if a string has more vowels than consonants.

Sample Input: education

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464. Topics: Lists, loops, arithmetic operations

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Sample Input: Hello world python code data

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471. Topics: Lists, loops, arithmetic operations, functions

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Sample Output: [3, 6]

472. Topics: Strings, loops, if-else

Problem: Write a Python program that prints True if a string contains at least one digit.

Sample Input: Hello123

Sample Output: True

473. Topics: Lists, loops, functions

Problem: Write a Python program that returns a list of even numbers using a function.

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Sample Output: [2, 4, 6]

474. Topics: Lists, loops, arithmetic operations

Problem: Write a Python program that prints the maximum difference between any two numbers.

Sample Input: 3 9 2 8 5

Sample Output: 7

475. Topics: Dictionaries, loops, if-else

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476. Topics: Lists, loops, if-else

Problem: Write a Python program that prints True if any number is divisible by both 2 and 5.

Sample Input: 2 3 5 10 15

Sample Output: True

477. Topics: Strings, loops, lists

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Sample Input: Hello world python

Sample Output: Hwp

478. Topics: Lists, loops, functions

Problem: Write a Python program that returns the smallest number using a function.

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Problem: Write a Python program that prints the sum of numbers divisible by 3 in a list.

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Problem: Write a Python program that checks if a string is a palindrome ignoring spaces and capitalization.

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