## ✅ Core Concepts Covered in Module 1

- Variables and data types
- Arithmetic and logical operations
- String operations
- Type conversion
- Input/output
- Basic syntax

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## 🧠 Beginner-Level Coding Problems (Level 1: Warm-up)

### 💡 Basic Print & Syntax

1. Print "Hello, World!".
2. Print your name, age, and city on separate lines.
3. Print the result of 5 + 3, 10 - 4, 8 * 2, 9 / 3.

### 💡 Variables and Data Types

4. Create variables: name (string), age (int), height (float), is_student (bool).
5. Swap two variables: a = 5, b = 10.
6. Convert an integer to a float and vice versa.
7. Create a variable containing the sum of 3 other variables.

### 💡 String Manipulation

8. Concatenate first name and last name with a space.
9. Reverse a string (e.g., "Python" → "nohtyP").
10. Count characters in a string.
11. Check if a string contains a specific word (use in).
12. Replace all spaces in a string with underscores.
13. Convert string to uppercase, lowercase, title case.
14. Extract the first and last character of a string.
15. Find the index of a character in a string.

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## 🎯 Level 2: Working with Input, Operators, and Expressions

### 🧮 Arithmetic & Type Conversion

16. Take input of 2 numbers and print their sum, difference, product, and division.
17. Calculate area and perimeter of a rectangle.
18. Compute the area of a circle from its radius.
19. Convert temperature from Celsius to Fahrenheit.
20. Convert seconds into hours, minutes, seconds.

🧠 **Logic Practice**

21. Take input age and print if the person is eligible to vote (18+).
22. Input a number, check if it’s even or odd.
23. Input 3 numbers, find the greatest.
24. Calculate BMI: weight / (height in m)^2.
25. Determine if a year is a leap year.

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🔤 **Level 3: Deeper String Practice**

26. Check if a string is a palindrome (e.g., "madam").
27. Count how many times a character appears in a string.
28. Take user input and count vowels and consonants.
29. Remove all special characters from a string.
30. Split a sentence into words and print the number of words.

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🧪 **Level 4: Mini Challenges**

31. Create a greeting program that takes the user's name and age.
32. Build a simple tip calculator.
33. Write a program to swap the first and last digits of a 3-digit number.
34. Calculate the simple interest given principal, rate, and time.
35. Take a float input and round it to 2 decimal places.
36. Take input of two numbers and show the average.

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🧩 **Level 5: Mini Puzzles (Fun Problems)**

37. Reverse the digits of an integer (e.g., 123 → 321).
38. Extract the middle character from an odd-length string.
39. Print ASCII value of a character.

40. Accept an amount in rupees and break it into currency notes (100s, 50s, 10s, 1s).
41. Create a program to check whether the last digit of a number is even or odd.

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### 🎲 Level 6: Interactive I/O Practice

42. Ask the user their birth year and calculate current age.
43. Ask the user to enter a sentence and print each word on a new line.
44. Ask for first name, last name and print initials.
45. Take input for a password and print "Strong" if it's >8 characters and has both letters and digits.

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### 🔢 Level 7: Working with Numbers

46. Find the square and cube of a number.
47. Extract digits from a 3-digit number and print the sum.
48. Calculate the digit sum of any number.
49. Convert kilometers to miles.
50. Convert days to weeks and days.

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### 📈 Level 8: Basic Boolean Logic & Operators

51. Take two integers and print which one is divisible by the other.
52. Input a number and print True if it's divisible by both 3 and 5.
53. Check if three sides form a triangle (Triangle Inequality Theorem).
54. Evaluate an expression: a + b * c / d – e, input from user.
55. Create a truth table for and, or, not for two boolean inputs.

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### 📚 Level 9: Quick Quizzes (Yes/No Problems)

56. Is Python case-sensitive when dealing with identifiers?
57. Does Python allow multi-line strings?
58. Can you store different data types in a single variable? (Explain using reassignment)
59. Is 0 considered True or False in Python?
60. What is the output of print(3 ** 2 + 4 // 2)?

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## 🛠️ Level 10: Integration Problems

61. Take input of name, age, height. Print a formatted message:
    *"Hi, my name is John, I am 25 years old, and 5.9 feet tall."*
62. A mini calculator that takes 2 numbers and an operator (+, -, *, /) from the user.
63. A number guess game: Ask user to guess a number between 1-10. If correct, print "You win!"
64. Create a login system: ask for username and password, and check against hardcoded values.
65. Take input of a 4-digit number and mask all digits except the last (like password fields).