Python Assignment – Input & Conditional Statements

🔹 Basic Level Questions (1–10)

1. **Even or Odd**
   - *Ask the user for a number. Use the modulo operator `%` to check if it's divisible by 2.*

   Hint: `number % 2 == 0` means the number is even.

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2. **Positive, Negative, or Zero**
   - *Input a number and use if–elif–else to compare it with 0.*

   Hint: Use conditions like `> 0`, `< 0`, and `== 0`.

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3. **Largest of Two Numbers**
   - *Ask the user for two numbers and compare them using `if` and `else`.*

   Hint: Use `if a > b:` to find the larger number.

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4. **Check Voting Eligibility**
   - *Input age and check if it's 18 or more.*

   Hint: `if age >= 18:`

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5. **Divisible by 5 and 11**
   - *Take a number and check if it's divisible by both 5 and 11.*

   Hint: Use `if number % 5 == 0 and number % 11 == 0:`

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6. **Leap Year Checker**
   - *Input a year and check leap year using proper conditions.*

   Hint: A year is leap if:

   - Divisible by 4, **and** not divisible by 100,
   - **or** divisible by 400

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7. **Character Type Checker**
   - *Input a single character. Use built-in string methods or ASCII ranges.*

   Hint: Use `.isalpha()`, `.isdigit()`, or check ASCII code with `ord()`.

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8. **Uppercase or Lowercase Alphabet**
   - *Input a character and determine its case.*

   Hint: Use `.isupper()` or compare ASCII values:

   - A–Z: 65–90
   - a–z: 97–122

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9. **Weekday Name by Number**
   - *Input a number (1–7) and print the weekday.*

   Hint: Use a chain of `if`, `elif`, `else` statements for 1 to 7.

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10. **Grade Assigner**
    - *Input marks (0–100) and assign grades accordingly.*

    Hint: Use multiple conditions like `if 90 <= marks <= 100:` and so on.

Moderate Level Questions (11–20)

11. **Triangle Validity Checker**
    - *Ask for three sides. A triangle is valid if sum of any two sides > third side.*

    Hint: Use all three combinations: `a + b > c`, `a + c > b`, `b + c > a`

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12. **Quadrant Finder**
    - *Input x and y coordinates and print which quadrant they lie in.*

    Hint: Use conditions like:

    - `x > 0 and y > 0 → 1st quadrant`
    - `x < 0 and y > 0 → 2nd quadrant` etc.

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13. **Odd or Even Digit Count**
    - *Input a single digit and check if it is odd or even.*

    Hint: Check if input is a single digit (0–9), then use `% 2`.

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14. **Electricity Bill Calculator**
    - *Use conditional blocks to calculate amount based on slab rates.*

    Hint: Use multiple `if` or `if-elif-else` blocks to handle each range of units.

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15. **Simple Calculator**
    - *Take two numbers and an operator from user and perform calculation.*

    Hint: Use conditions like:
    `if op == '+': result = a + b` and so on.

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16. **Absolute Value Calculator**
    - *Input a number and print its absolute value.*

    Hint: If number is less than 0, multiply it by -1.

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17. **Check if a Character is a Vowel or Consonant**
    - *Input a single alphabet and check whether it is vowel or consonant.*

    Hint: Use `in` keyword to check:
    `'a', 'e', 'i', 'o', 'u'` (also check uppercase)

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18. **Check for Triangle Type**
    - *Input three sides. Check if all equal (Equilateral), any two equal (Isosceles), or all different (Scalene).*

    Hint: Use conditions like `a == b and b == c`, etc.

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19. **Check for Leap Year Using Only If (No Else)**
    - *Same as Q6, but only use `if` statements.*

    Hint: Use multiple `if` blocks instead of `else`.

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20. **Password Strength Checker (Simple)**
    - *Input a password and check for:*
        - *Length >= 8*
        - *Contains digits and letters*

    Hint: Use `len(password)`, `.isdigit()`, `.isalpha()`, or loop through characters.