**Function-Based Interview Questions – Logic & Practice**

### 1. Add Two Numbers Using Function

**Problem:** Write a function that takes two numbers as arguments and returns their sum.

**Explanation:** The function should accept two inputs and return the result of their addition.

**Input:**

Enter first number: 10  
Enter second number: 20

**Output:**

Sum = 30

### 2. Check Even or Odd Using Function

**Problem:** Write a function that determines whether a number is even or odd.

**Explanation:** Even numbers are divisible by 2. The function should return “Even” or “Odd”.

**Input:**

Enter number: 15

**Output:**

15 is Odd

### 3. Check Leap Year Using Function

**Problem:** Write a function that checks if a given year is a leap year.

**Explanation:** A leap year is divisible by 4 but not by 100 unless also divisible by 400.

**Input:**

Enter year: 2020

**Output:**

2020 is a Leap Year

### 4. Check Prime Number Using Function

**Problem:** Write a function that checks whether a given number is prime.

**Explanation:** A prime number has only two factors: 1 and itself.

**Input:**

Enter number: 13

**Output:**

13 is a Prime Number

### 5. Print Armstrong Numbers from m to n Using Function

**Problem:** Write a function that prints all Armstrong numbers in a given range from m to n.

**Explanation:** Armstrong number = sum of digits raised to the power of number of digits.

**Input:**

m = 100  
n = 500

**Output:**

Armstrong Numbers between 100 and 500: 153 370 371 407

### 🔁 Recursion-Based Problems

### 6. Factorial Using Recursion

**Problem:** Write a recursive function to calculate the factorial of a number.

**Explanation:** factorial(n) = n \* factorial(n - 1), with base case factorial(0) = 1.

**Input:**

Enter number: 5

**Output:**

Factorial = 120

### 7. Fibonacci Series Using Recursion

**Problem:** Print the Fibonacci series up to n terms using recursion.

**Explanation:** fibonacci(n) = fibonacci(n-1) + fibonacci(n-2) with base cases fibonacci(0)=0, fibonacci(1)=1.

**Input:**

Enter terms: 5

**Output:**

Fibonacci Series: 0 1 1 2 3

### 8. Sum of Digits Using Recursion

**Problem:** Write a recursive function to find the sum of digits of a number.

**Explanation:** sum(n) = n % 10 + sum(n // 10)

**Input:**

Enter number: 123

**Output:**

Sum of digits = 6

### 9. Reverse a Number Using Recursion

**Problem:** Write a recursive function to reverse the digits of a number.

**Explanation:** Keep multiplying result by 10 and adding the current digit.

**Input:**

Enter number: 1234

**Output:**

Reversed Number = 4321

### 10. Check Palindrome Using Recursion

**Problem:** Write a recursive function to check if a string is a palindrome.

**Explanation:** Compare first and last characters and recurse on the substring.

**Input:**

Enter string: madam

**Output:**

The string is a palindrome.

✅ These problems focus on **basic function usage** and **logical thinking**, great for beginner interviews.

Would you like to:

* 🐍 Add Python code for each question?
* 📥 Export as a PDF?
* ➕ Add more recursion/function-based problems?