Pseudocode Exercise Questions

1. Check if a Number is Prime

Problem: Write a pseudocode to check whether a given number is prime.

```
Input: n
If n <= 1, Output "Not Prime"
For i from 2 to sqrt(n)
        If n mod i == 0
                Output "Not Prime"
                Exit
Output "Prime"
```

2. For-Next Loop: Print Fibonacci Series up to N Terms

Problem: Write a pseudocode to print the Fibonacci series up to `n` terms using a `for` loop.
Input: n

Let a = 0, b = 1

For i from 1 to n

  Print a

  Let temp = a + b

  a = b

  b = temp

End For

3. While Loop: Reverse a Number

Problem: Write a pseudocode to reverse a given number using a `while` loop.

Input: num

Let reverse = 0

```
While num > 0
    Let remainder = num mod 10
    reverse = reverse * 10 + remainder
    num = num // 10
End While
Output reverse
```

4. Arrays: Find the Median of an Array

Problem: Write a pseudocode to find the median of a given array.

```
Input: array
Sort array
Let length = number of elements in array
If length is odd
    median = array[length // 2]
Else
    median = (array[length // 2 - 1] + array[length // 2]) / 2
Output median
```

5. Matrices: Multiply Two 3x3 Matrices

Problem: Write a pseudocode to multiply two 3x3 matrices and display the result.

```
Input: matrix A, matrix B
Let result be a 3x3 matrix filled with 0s
For i from 0 to 2
    For j from 0 to 2
```

```
        For k from 0 to 2
            result[i][j] = result[i][j] + A[i][k] * B[k][j]
        End For
    End For
End For
Output result matrix
```