1. **Write a program to calculate sum of two numbers in Leaf programming language.**

```
def sum(a: Int, b: Int) -> Int {
    return a + b;
}

def main() {
    let result = sum(3, 5);
    println(result);
}
```

Output : -

```
9
```

---

2. **Write a program to calculate factorial of a number in Leaf programming language.**

```
def factorial(n: Int) -> Int {
    if n == 0 {
        return 1;
    } else {
        return n * factorial(n - 1);
    }
}
def main() {
    let result = factorial(5);
   println(result);
}
```

Output : -

```
120
```

---

3. **Write a program to Check Prime Number in Leaf programming language.**

```
def is_prime(n: Int) -> Bool {
    if n <= 1 {
        return false;
    }
    for i in 2..n {
        if n % i == 0 {
            return false;
        }
    }
    return true;
}

def main() {
    let number = 7;
    if is_prime(number) {
           println(number, "is a prime number.");
    } else {
        println(number, "is not a prime number.");
    }
```

```
}
```

Output : -

7 is a prime number.

---

4. **Write a Fibonacci series program in Leaf programming language.**

```
def fibonacci(n: Int) -> Int {
    if n <= 1 {
        return n;
    } else {
        return fibonacci(n - 1) + fibonacci(n - 2);
    }
}

def main() {
    for i in 0..10 {
        println(fibonacci(i));
    }
}
```

Output : -

0

1

1

2

3

5

8

13

21

34

---

5. **Write a program to find maximum in an array in Leaf programming language.**

```
def find_max(arr: [Int]) -> Int {
    let max = arr[0];
    for i in 1..arr.length {
        if arr[i] > max {
            max = arr[i];
        }
    }
```

```
    return max;
}

def main() {
    let numbers = [3, 5, 7, 2, 8, 9];
    let max_number = find_max(numbers);
    println("Maximum number is:", max_number);
}
```

Output : -

9

---

6. **Write a program to reverse a string in Leaf programming language.**

```
def reverse_string(s: String) -> String {
    let reversed = "";
    for i in (0..s.length).reverse() {
        reversed += s[i];
    }
    return reversed;
}

def main() {
    let str = "Leaf";
    let reversed_str = reverse_string(str);
    println("Reversed string is:", reversed_str);
}
```

Output : -

Reversed string is: faeL

---

7. **Write a program to check even or odd in Leaf programming language.**

```
def is_even(n: Int) -> Bool {
    return n % 2 == 0;
}

def main() {
    let number = 10;
    if is_even(number) {
        println(number, "is an even number.");
    } else {
        println(number, "is an odd number.");
    }
}
```

Output : -

10 is an even number.