```
1.  fun printNumber(n: Int): List<Int> {
    return if (n == 0) {
        emptyList()
    } else {
        (n downTo 1).toList()
    }
}

fun main() {
    println(printNumber(0))
    println(printNumber(2))
    println(printNumber(5))
}

2.  fun pyramid(n: Int) {
    val maxWidth = 2 * n - 1
    for (i in 1..n) {
        val numHashes = 2 * i - 1
        val numSpaces = (maxWidth - numHashes) / 2
        println(" ".repeat(numSpaces) + "#".repeat(numHashes) + "
".repeat(numSpaces))
    }
}

fun main() {
    pyramid(1)
    println()
    pyramid(2)
    println()
    pyramid(3)
}

3.  fun caesarCipher(text: String, shift: Int): String {
    return text.map { char ->
        if (char.isLetter()) {
            val base = if (char.isUpperCase()) 'A' else 'a'
            val offset = (char - base + shift) % 26
            (base + if (offset < 0) offset + 26 else offset).toChar()
        } else char
    }.joinToString("")
}

fun main() {
    println(caesarCipher("Hello, World!", 3))
    println(caesarCipher("Khoor, Zruog!", -3))
```

```kotlin
        println(caesarCipher("ABCXYZ", 5))
}

4.  fun fizzBuzz(n: Int): List<Any> {
        return (1..n).map {
            when {
                it % 15 == 0 -> "ВизллБизлл"
                it % 3 == 0 -> "Физллл"
                it % 5 == 0 -> "Бизлллл"
                else -> it
            }
        }.toList()
}

fun main() {
    println(fizzBuzz(5))
    println(fizzBuzz(16))
}
```