Лабораторная работа №10

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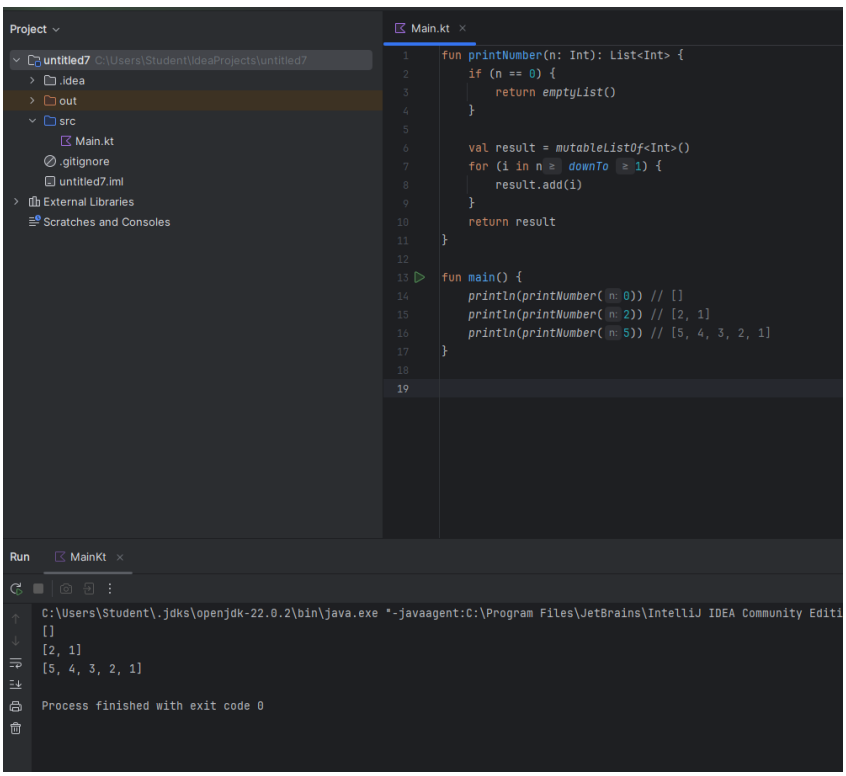
1. fun printNumber(n: Int): List<Int> {

```
fun printNumber(n: Int): List<Int> {
    if (n == 0) {
        return emptyList()
    }
    val result = mutableListOf<Int>()
    for (i in n downTo 1) {
        result.add(i)
    }
    return result
}
fun main() {
    println(printNumber(0)) // []
    println(printNumber(2)) // [2, 1]
    println(printNumber(5)) // [5, 4, 3, 2, 1]
}
```



2. fun generatePyramid(n: Int) {

    for (i in 1..n) {

        val spaces = " ".repeat(n - i)

        val hashes = "#".repeat(2 * i - 1)

        println(spaces + hashes + spaces)

    }

}

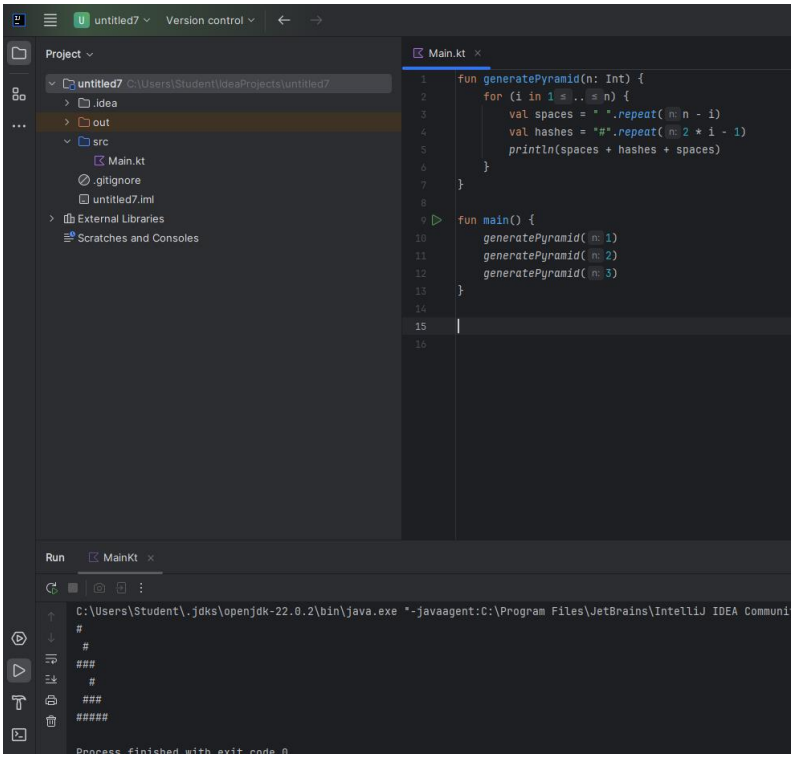
fun main() {

    generatePyramid(1)

    generatePyramid(2)

    generatePyramid(3)

}



3. fun caesarCipher(text: String, shift: Int): String {

    val result = StringBuilder()

    for (char in text) {

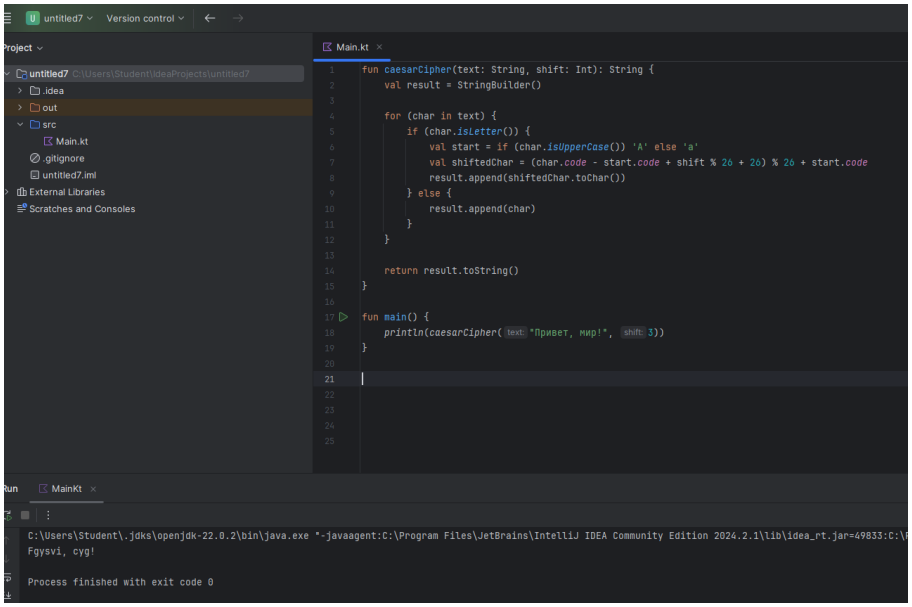
        if (char.isLetter()) {

            val start = if (char.isUpperCase()) 'A' else 'a'

```
            val shiftedChar = (char.code - start.code + shift % 26 + 26) % 26 + start.code
            result.append(shiftedChar.toChar())
        } else {
            result.append(char)
        }
    }

    return result.toString()
}

fun main() {
  println(caesarCipher("Привет, мир!", 3))
}
```




```
4. fun fizzBuzz(n: Int): List<String> {
    val result = mutableListOf<String>()
    for (i in 1..n) {
        when {
            i % 3 == 0 && i % 5 == 0 -> result.add("ВиззБизз")
            i % 3 == 0 -> result.add("Физз")
            i % 5 == 0 -> result.add("Бизз")
            else -> result.add(i.toString())
        }
```

```
    }
    return result
}

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