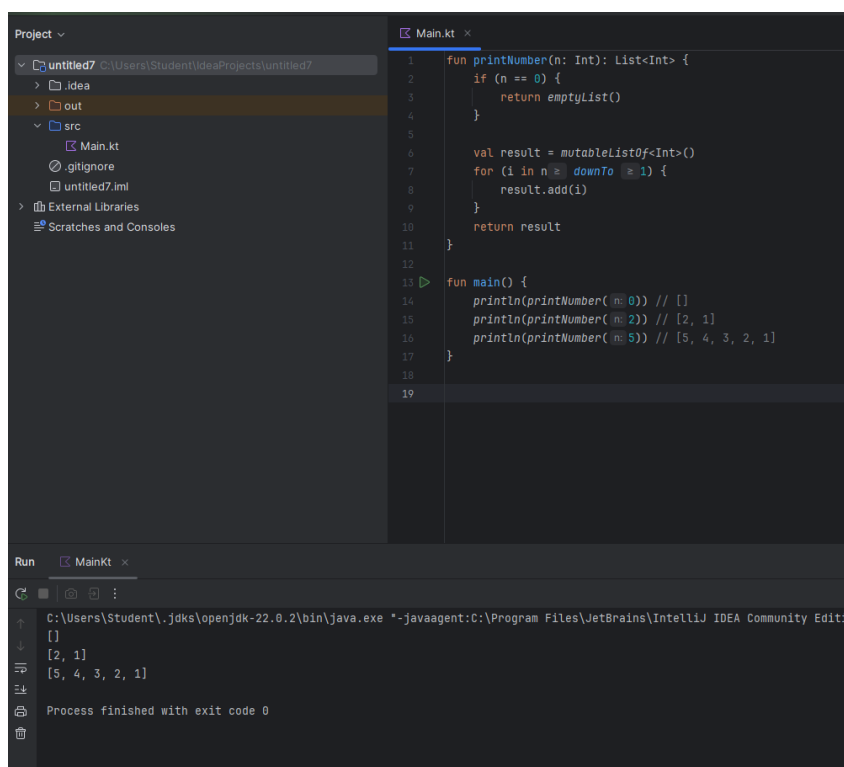


```
1. fun printNumber(n: Int): List<Int> {  
  
fun printNumber(n: Int): List<Int> {  
  
    if (n == 0) {  
  
        return emptyList()  
  
    }  
  
    val result = mutableListOf<Int>()  
  
    for (i in n downTo 1) {  
  
        result.add(i)  
  
    }  
  
    return result  
  
}  
  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



The screenshot displays the IntelliJ IDEA IDE interface. The top-left pane shows the project structure for 'untitled7', with the 'src' directory expanded to show 'Main.kt'. The top-right pane shows the code for 'Main.kt', which is the same code as provided in the text block. The bottom pane shows the 'Run' output, which contains the following text:

```
C:\Users\Student\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Editi  
[]  
[2, 1]  
[5, 4, 3, 2, 1]  
Process finished with exit code 0
```

```

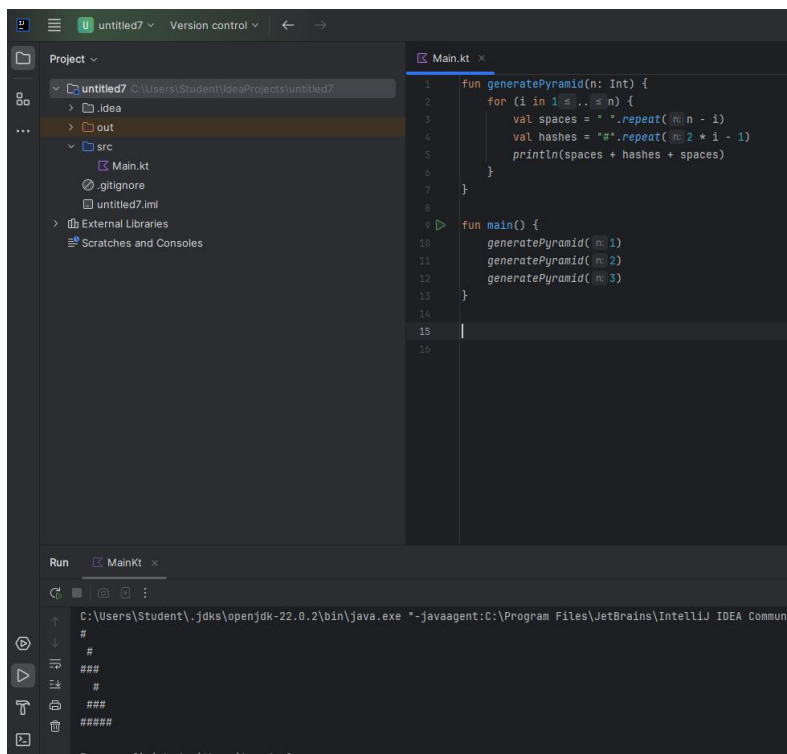
2. fun generatePyramid(n: Int) {
    for (i in 1..n) {
        val spaces = " ".repeat(n - i)
        val hashes = "#".repeat(2 * i - 1)
        println(spaces + hashes + spaces)
    }
}

```

```

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()

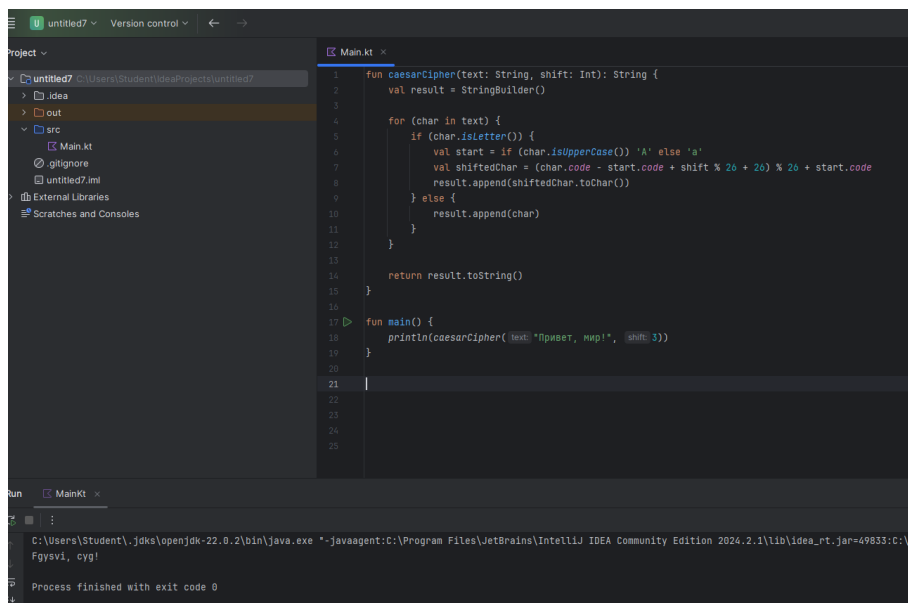
}

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
```

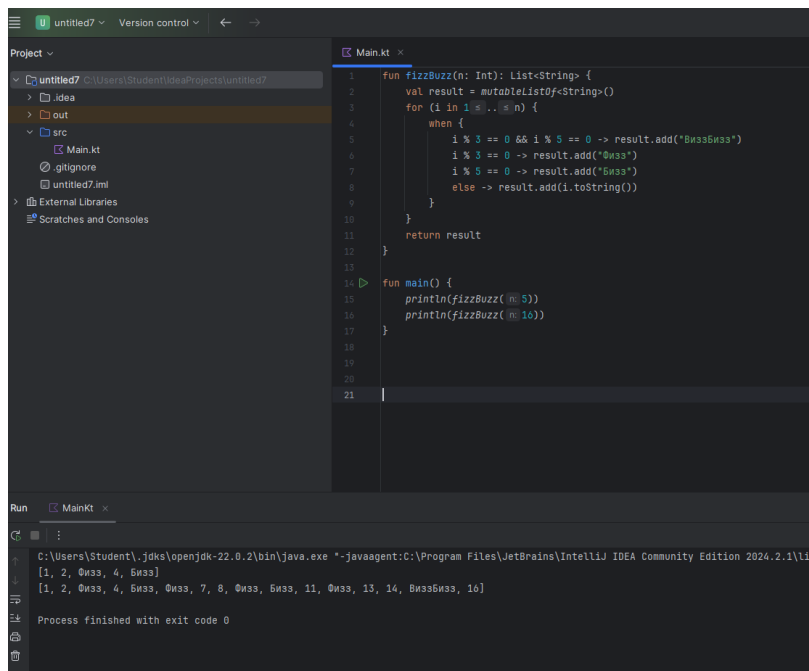
```
}
```

```
fun main() {
```

```
    println(fizzBuzz(5))
```

```
    println(fizzBuzz(16))
```

```
}
```



The screenshot shows the IntelliJ IDEA IDE with a Kotlin project named 'untitled7'. The 'Project' view on the left shows the file structure: 'src' contains 'Main.kt'. The 'Main.kt' file is open in the editor, showing the following code:

```
1 fun fizzBuzz(n: Int): List<String> {
2     val result = mutableListOf<String>()
3     for (i in 1..n) {
4         when {
5             i % 3 == 0 && i % 5 == 0 -> result.add("BwaaBwaa")
6             i % 3 == 0 -> result.add("Bwaa")
7             i % 5 == 0 -> result.add("Bwaa")
8             else -> result.add(i.toString())
9         }
10    }
11    return result
12 }
13
14 fun main() {
15     println(fizzBuzz(5))
16     println(fizzBuzz(16))
17 }
18
19
20
21
```

The 'Run' view at the bottom shows the command executed: `C:\Users\Student\.jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=60287:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\bin -Dfile.encoding=UTF-8`. The output is:

```
[1, 2, Bwaa, 4, Bwaa]
[1, 2, Bwaa, 4, Bwaa, Bwaa, 7, 8, Bwaa, Bwaa, 11, Bwaa, 13, 14, BwaaBwaa, 16]
```

The process finished with exit code 0.