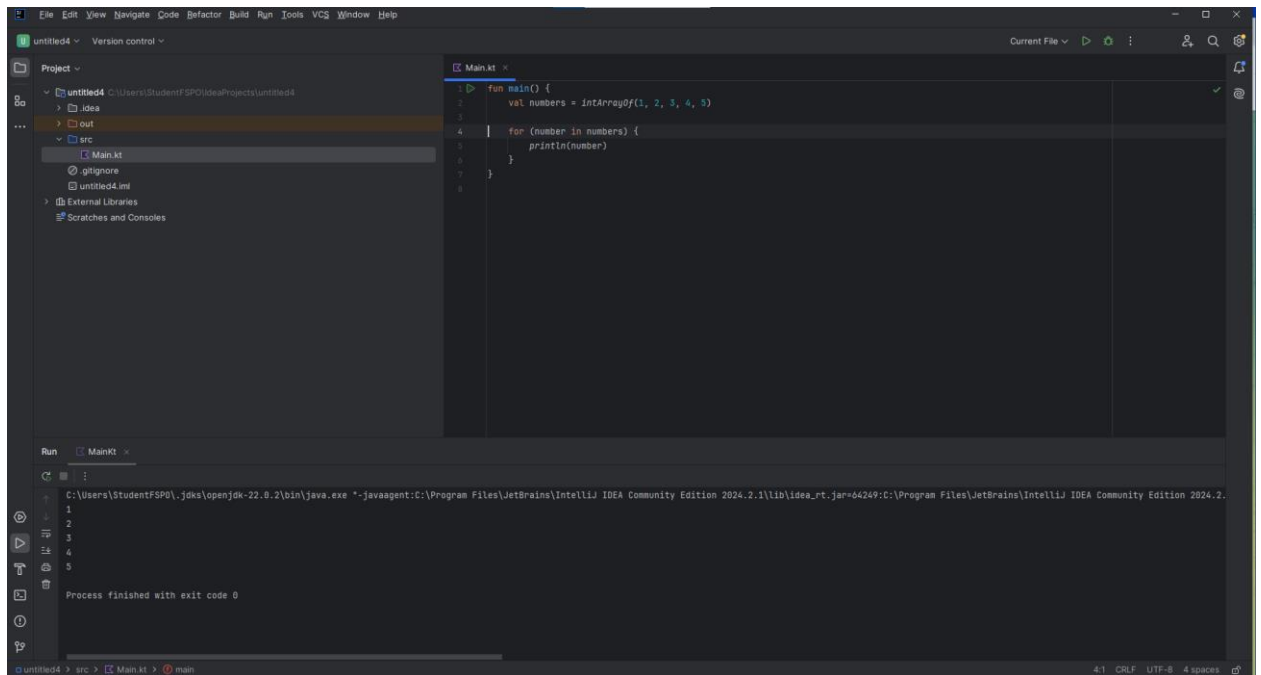


# Степаненко ИС232

1)



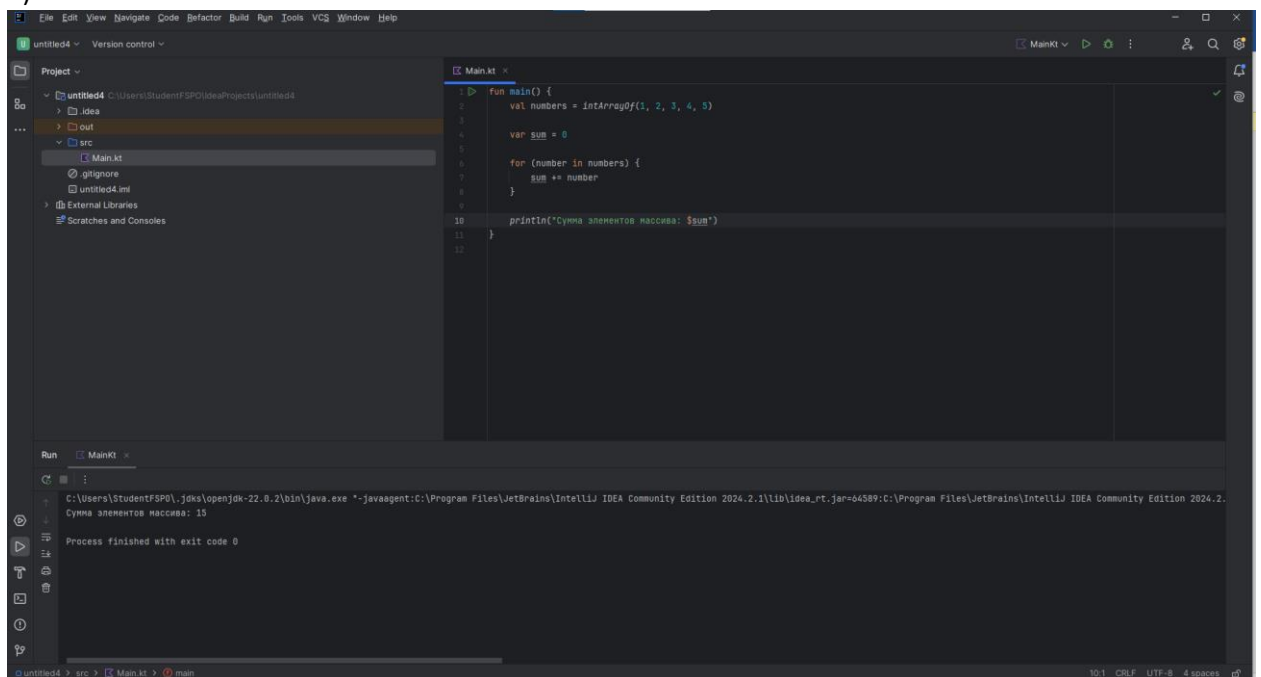
The screenshot shows the IntelliJ IDEA interface with a project named 'untitled4'. The 'Project' view on the left shows the file structure: 'src' > 'Main.kt'. The 'Main.kt' file is open in the editor, showing the following Kotlin code:

```
1 fun main() {  
2     val numbers = IntArray(5) { 1, 2, 3, 4, 5 }  
3  
4     for (number in numbers) {  
5         println(number)  
6     }  
7 }  
8
```

The 'Run' view at the bottom shows the execution output:

```
1  
2  
3  
4  
5  
Process finished with exit code 0
```

2)



The screenshot shows the IntelliJ IDEA interface with the same project 'untitled4'. The 'Main.kt' file is open in the editor, showing the following Kotlin code:

```
1 fun main() {  
2     val numbers = IntArray(5) { 1, 2, 3, 4, 5 }  
3  
4     var sum = 0  
5  
6     for (number in numbers) {  
7         sum += number  
8     }  
9  
10    println("Сумма элементов массива: $sum")  
11 }  
12
```

The 'Run' view at the bottom shows the execution output:

```
Сумма элементов массива: 15  
Process finished with exit code 0
```

3)

The screenshot shows the IntelliJ IDEA interface with a project named 'untitled4'. 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 Kotlin code:

```
1 fun main() {  
2     val numbers = IntArrayOf(10, 5, 3, 7, 9, 1, 8, 2, 6, 4)  
3  
4     val maxValue = numbers.maxOrNull()  
5     val minValue = numbers.minOrNull()  
6  
7     println("Максимальное значение: $maxValue")  
8     println("Минимальное значение: $minValue")  
9  
10 }
```

The 'Run' view at the bottom shows the execution output:

```
Run Main.kt  
C:\Users\Student\SPQ\jdk\openjdk-22.0.2\bin\java.exe -javaagent:c:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar=64737:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2  
Максимальное значение: 10  
Минимальное значение: 1  
Process finished with exit code 0
```

4)

The screenshot shows the IntelliJ IDEA interface with the same project 'untitled4'. 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 Kotlin code:

```
1 fun main() {  
2     val numbers = IntArrayOf(10, 5, 3, 7, 9, 1, 8, 2, 6, 4)  
3  
4     numbers.sort()  
5  
6     println("Отсортированный массив:")  
7     for (number in numbers) {  
8         println(number)  
9     }  
10 }  
11
```

The 'Run' view at the bottom shows the execution output:

```
Run Main.kt  
Отсортированный массив:  
1  
2  
3  
4  
5  
6  
7  
8  
9  
10
```

5)

The screenshot shows the IntelliJ IDEA IDE with a project named 'untitled4'. The 'Project' view on the left shows the file structure: 'src' > 'Main.kt'. The 'Main.kt' file is open in the editor, showing the following Kotlin code:

```
1 fun main() {  
2     val numbers = IntArray(10) { 1, 2, 3, 2, 4, 5, 3, 5, 7, 8, 7, 9, 1, 3, 6, 2, 8, 1 }  
3  
4     val uniqueNumbers = numbers.toSet()  
5  
6     println("Уникальные элементы массива:")  
7     for (number in uniqueNumbers) {  
8         println(number)  
9     }  
10 }  
11  
12
```

The 'Run' view at the bottom shows the output of the program:

```
Уникальные элементы массива:  
1  
2  
3  
4  
5  
6  
7  
8  
9  
35
```

6)

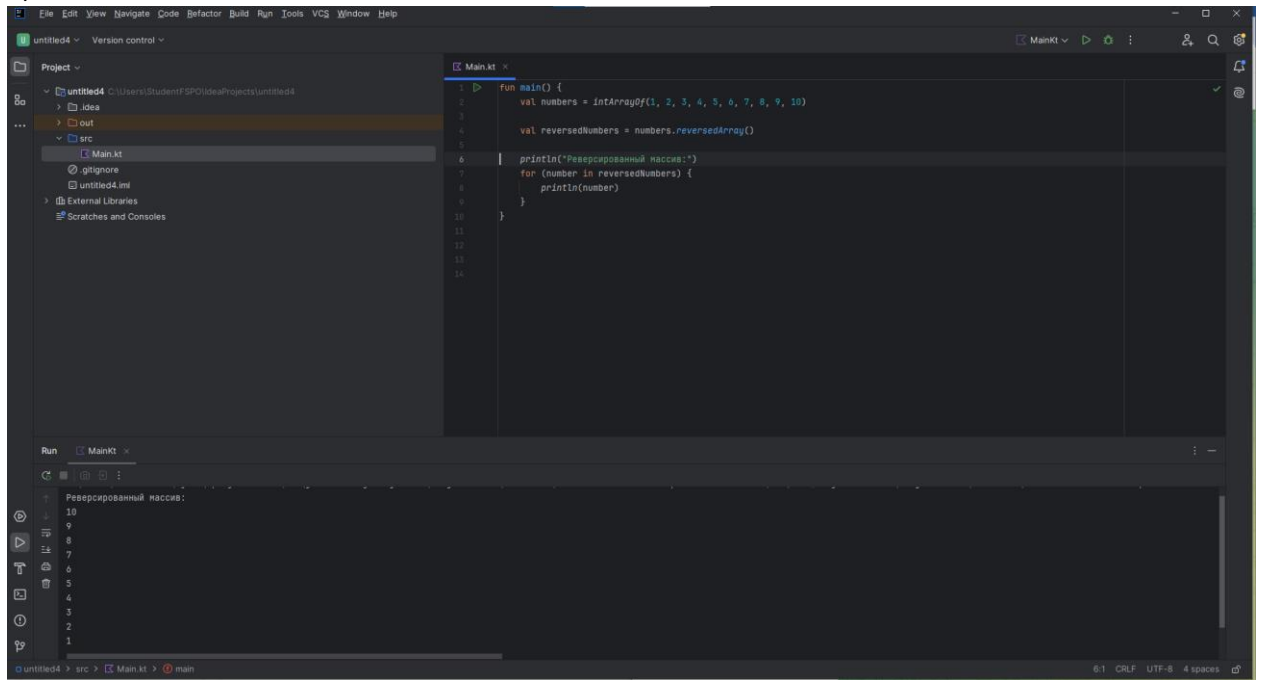
The screenshot shows the IntelliJ IDEA IDE with a project named 'untitled4'. The 'Project' view on the left shows the file structure: 'src' > 'Main.kt'. The 'Main.kt' file is open in the editor, showing the following Kotlin code:

```
1 fun main() {  
2     val numbers = IntArray(10) { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 }  
3  
4     val evenNumbers = mutableListOf<Int>()  
5     val oddNumbers = mutableListOf<Int>()  
6  
7     for (number in numbers) {  
8         if (number % 2 == 0) {  
9             evenNumbers.add(number)  
10        } else {  
11            oddNumbers.add(number)  
12        }  
13    }  
14  
15    println("Четные числа:")  
16    for (number in evenNumbers) {  
17        println(number)  
18    }  
19  
20    println("Нечетные числа:")  
21    for (number in oddNumbers) {  
22        println(number)  
23    }  
24 }  
25
```

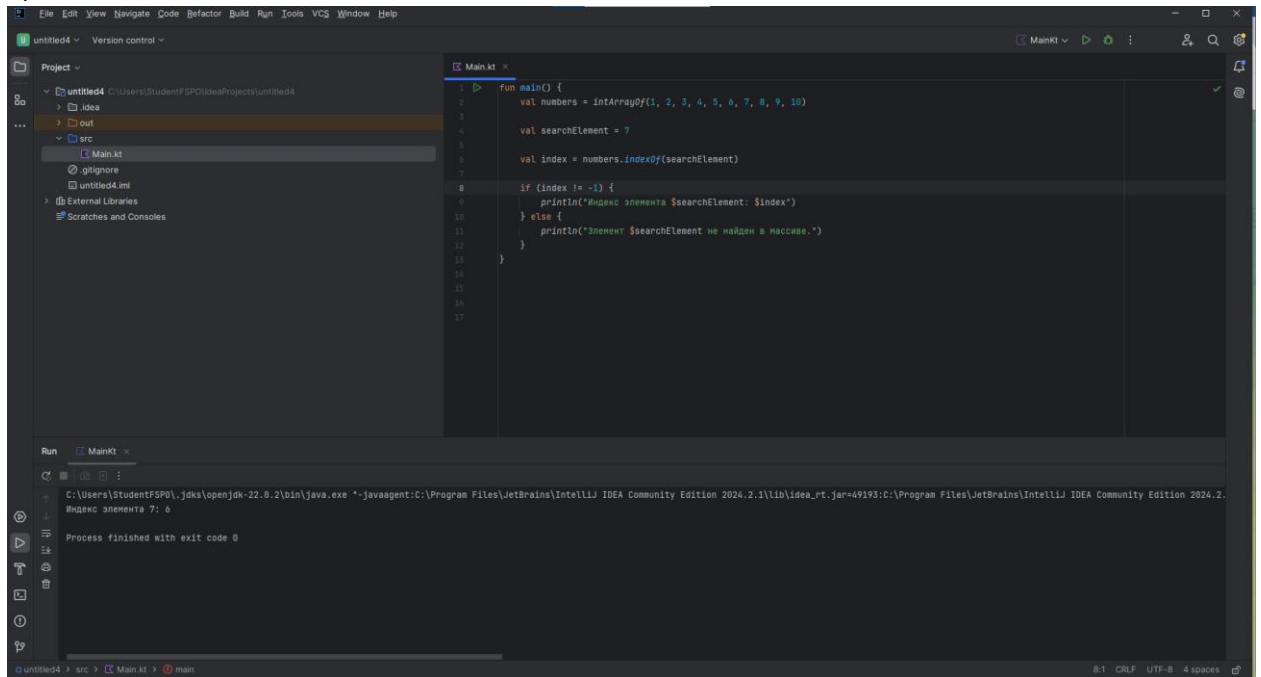
The 'Run' view at the bottom shows the output of the program:

```
Четные числа:  
2  
4  
6  
8  
10  
Нечетные числа:  
1  
3  
5  
7  
9
```

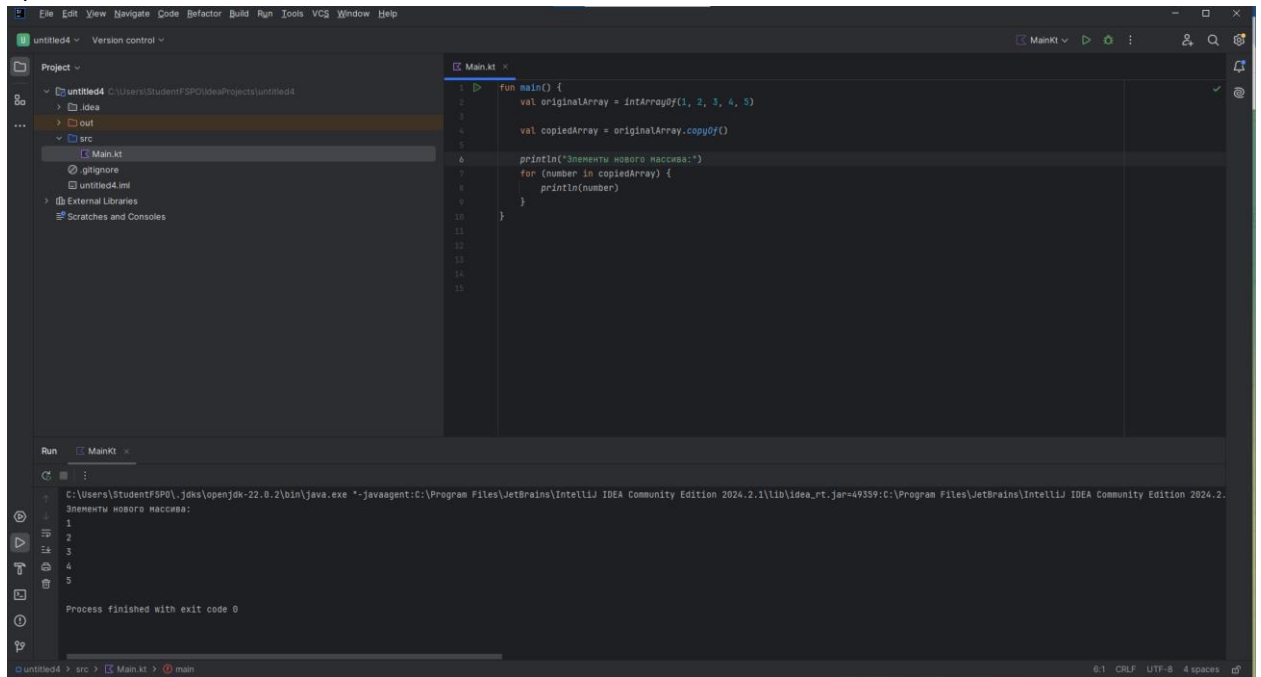
7)



8)



9)



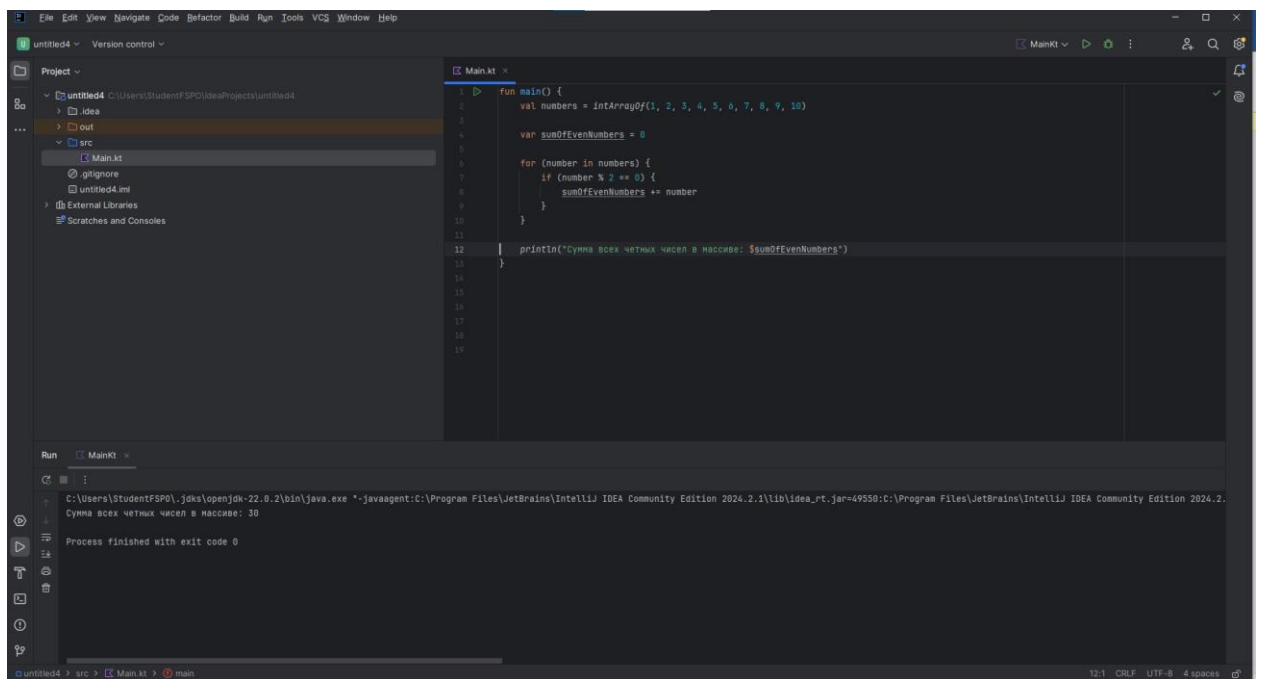
The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code defines a `main` function that creates an array of integers `originalArray` with values `1, 2, 3, 4, 5`, copies it to `copiedArray`, and prints each element. The Run window shows the output: `Элементы массива: 1 2 3 4 5`.

```
1 fun main() {  
2     val originalArray = intArrayOf(1, 2, 3, 4, 5)  
3  
4     val copiedArray = originalArray.copyOf()  
5  
6     println("Элементы массива:")  
7     for (number in copiedArray) {  
8         println(number)  
9     }  
10 }  
11  
12  
13  
14  
15
```

Run `Main.kt`

```
C:\Users\Student\SPQ\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=49359:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.  
Элементы массива:  
1  
2  
3  
4  
5  
Process finished with exit code 0
```

10)



The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code defines a `main` function that creates an array of integers `numbers` with values `1, 2, 3, 4, 5, 6, 7, 8, 9, 10`, iterates through it, and calculates the sum of even numbers. The Run window shows the output: `Сумма всех четных чисел в массиве: 30`.

```
1 fun main() {  
2     val numbers = intArrayOf(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)  
3  
4     var sumOfEvenNumbers = 0  
5  
6     for (number in numbers) {  
7         if (number % 2 == 0) {  
8             sumOfEvenNumbers += number  
9         }  
10 }  
11  
12 println("Сумма всех четных чисел в массиве: $sumOfEvenNumbers")  
13 }  
14  
15  
16  
17  
18  
19
```

Run `Main.kt`

```
C:\Users\Student\SPQ\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=49550:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.  
Сумма всех четных чисел в массиве: 30  
Process finished with exit code 0
```

11)

```

1 fun main() {
2     val array1 = IntArrayof(1, 2, 3, 4, 5)
3     val array2 = IntArrayof(3, 4, 5, 6, 7)
4
5     val set1 = array1.toSet()
6     val set2 = array2.toSet()
7
8     val intersection = set1.intersect(set2)
9
10    println("Пересежение массивов:")
11    for (number in intersection) {
12        println(number)
13    }
14 }
15
16
17
18
19
20
21

```

Run MainKt

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=49761:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.
Пересежение массивов:
3
4
5
Process finished with exit code 0

```

12)

```

1 fun main() {
2     val numbers = IntArrayof(1, 2, 3, 4, 5)
3
4     println("Исходный массив:")
5     for (number in numbers) {
6         print("$number ")
7     }
8     println()
9
10    val index1 = 0
11    val index2 = 4
12
13    swapElements(numbers, index1, index2)
14
15    println("Массив после перестановки:")
16    for (number in numbers) {
17        print("$number ")
18    }
19    println()
20 }
21
22 fun swapElements(array: IntArray, index1: Int, index2: Int) {
23     if (index1 < 0 || index1 >= array.size || index2 < 0 || index2 >= array.size) {
24         println("Некорректные индексы для перестановки.")
25         return
26     }
27 }

```

Run MainKt

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=49941:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.
Исходный массив:
1 2 3 4 5
Массив после перестановки:
5 2 3 4 1
Process finished with exit code 0

```

13)

The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code generates 20 random integers between 1 and 101. The console output displays these numbers, with the first line being "Магический квадрат:".

```

1 import kotlin.random.Random
2
3 fun main() {
4     val randomNumbers = IntArray(20) { Random.nextInt(1, 101) }
5
6     println("Магический квадрат:")
7     for (number in randomNumbers) {
8         println(number)
9     }
10 }
11

```

Run console output:

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=50239:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\bin\idea_rt.jar -Didea.config.path=C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\idea_rt.jar -Didea.home.path=C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\idea_rt.jar -Didea.platform.prefix=java -jar C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\idea_rt.jar
Магический квадрат:
80
47
13
16
92
49
80
94
14
58
80
52
48
34
17
47
87
45
43
48
Process finished with exit code 0

```

14)

The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code filters a list of numbers (1 to 10) to only those divisible by 3. The console output displays the filtered numbers: 3, 6, and 9.

```

1 fun main() {
2     val numbers = IntArray(10) { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 }
3
4     println("Числа, делящиеся на 3:")
5     for (number in numbers) {
6         if (number % 3 == 0) {
7             println(number)
8         }
9     }
10 }
11

```

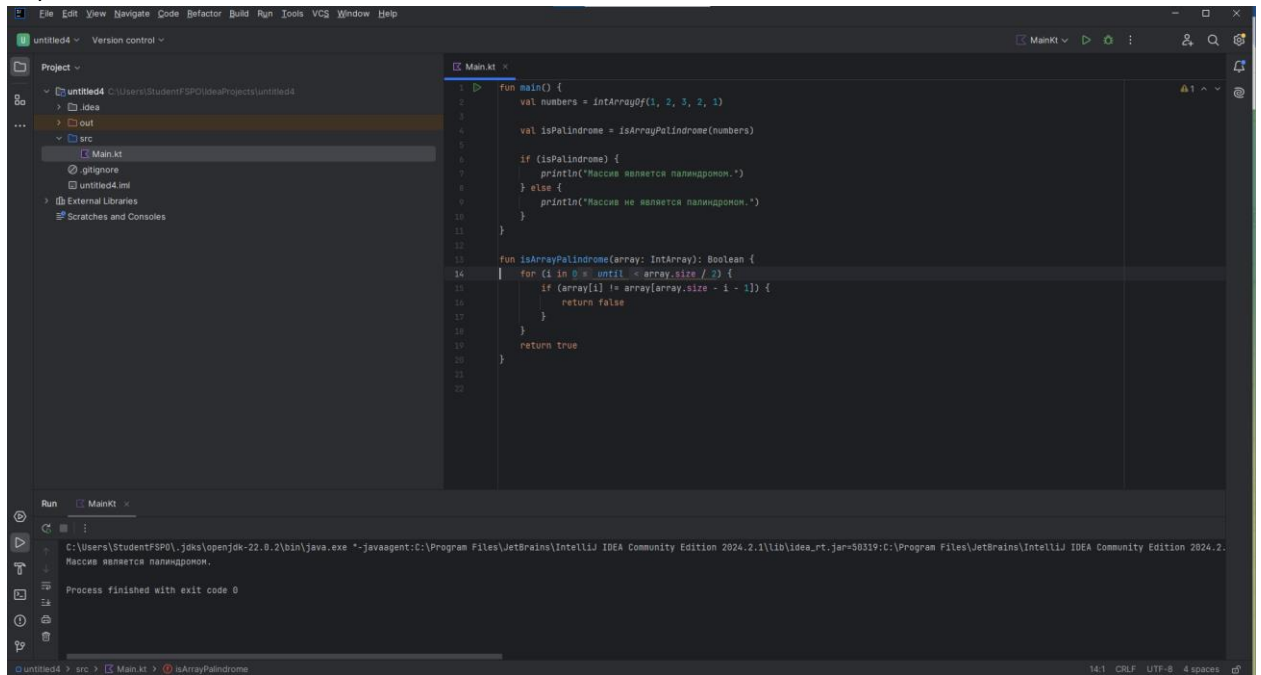
Run console output:

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea_rt.jar=50239:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\bin\idea_rt.jar -Didea.config.path=C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\idea_rt.jar -Didea.home.path=C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\idea_rt.jar -Didea.platform.prefix=java -jar C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\idea_rt.jar
Числа, делящиеся на 3:
3
6
9
Process finished with exit code 0

```

15)



```

1 fun main() {
2     val numbers = intArrayOf(1, 2, 3, 2, 1)
3
4     val isPalindrome = isArrayPalindrome(numbers)
5
6     if (isPalindrome) {
7         println("Массив является палиндромом.")
8     } else {
9         println("Массив не является палиндромом.")
10    }
11 }
12
13 fun isArrayPalindrome(array: IntArray): Boolean {
14     for (i in 0 until array.size / 2) {
15         if (array[i] != array[array.size - 1 - i]) {
16             return false
17         }
18     }
19     return true
20 }

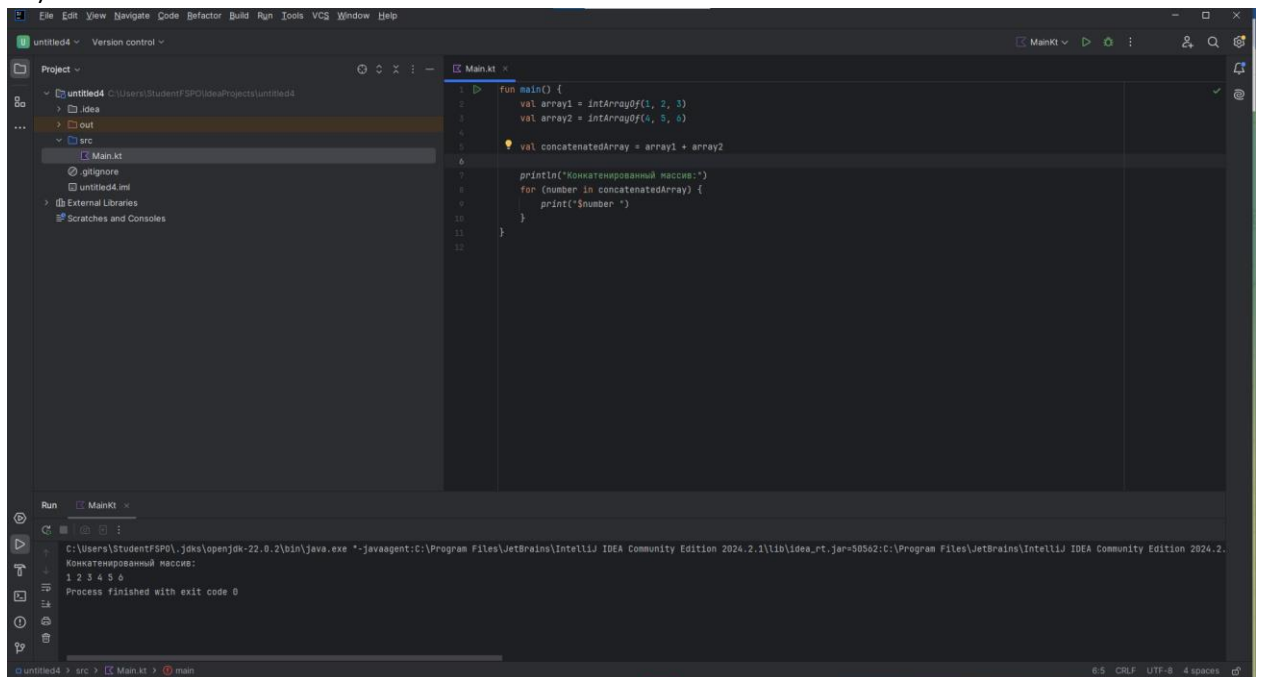
```

Run Main.kt

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea\_rt.jar=58319:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2. Массив является палиндромом.

Process finished with exit code 0

16)



```

1 fun main() {
2     val array1 = intArrayOf(1, 2, 3)
3     val array2 = intArrayOf(4, 5, 6)
4
5     val concatenatedArray = array1 + array2
6
7     println("Конкатенированный массив:")
8     for (number in concatenatedArray) {
9         print("$number ")
10    }
11 }
12

```

Run Main.kt

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea\_rt.jar=58562:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2. Конкатенированный массив:  
1 2 3 4 5 6

Process finished with exit code 0



17)

```

1 fun main() {
2     val numbers = intArrayOf(1, 2, 3, 4, 5)
3
4     var sum = 0
5     var product = 1
6
7     for (number in numbers) {
8         sum += number
9         product *= number
10    }
11
12    println("Сумма всех элементов массива: $sum")
13    println("Произведение всех элементов массива: $product")
14 }
15

```

Run Main.kt

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar=50651:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2"
Сумма всех элементов массива: 15
Произведение всех элементов массива: 120
Process finished with exit code 0

```

18)

```

1 fun main() {
2     val numbers = intArrayOf(1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15)
3
4     val numbersList = numbers.toList()
5     val groups = numbersList.chunked(5)
6
7     println("Группы чисел:")
8     for ((index, group) in groups.withIndex()) {
9         println("Группа $index + 1: ${group.joinToString(separator = ", ")}")
10    }
11 }
12

```

Run Main.kt

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar=50858:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2"
Группы чисел:
Группа 1: 1, 2, 3, 4, 5
Группа 2: 6, 7, 8, 9, 10
Группа 3: 11, 12, 13, 14, 15
Process finished with exit code 0

```

```

19) fun main() {
    val array1 = intArrayOf(1, 3, 5, 7, 9)
    val array2 = intArrayOf(2, 4, 6, 8, 10)

    val mergedArray = mergeSortedArrays(array1, array2)

    println("Слитый отсортированный массив:")
    for (number in mergedArray) {
        print("$number ")
    }
}

fun mergeSortedArrays(array1: IntArray, array2: IntArray): IntArray {
    val result = IntArray(array1.size + array2.size)
    var i = 0

```

```

var j = 0
var k = 0

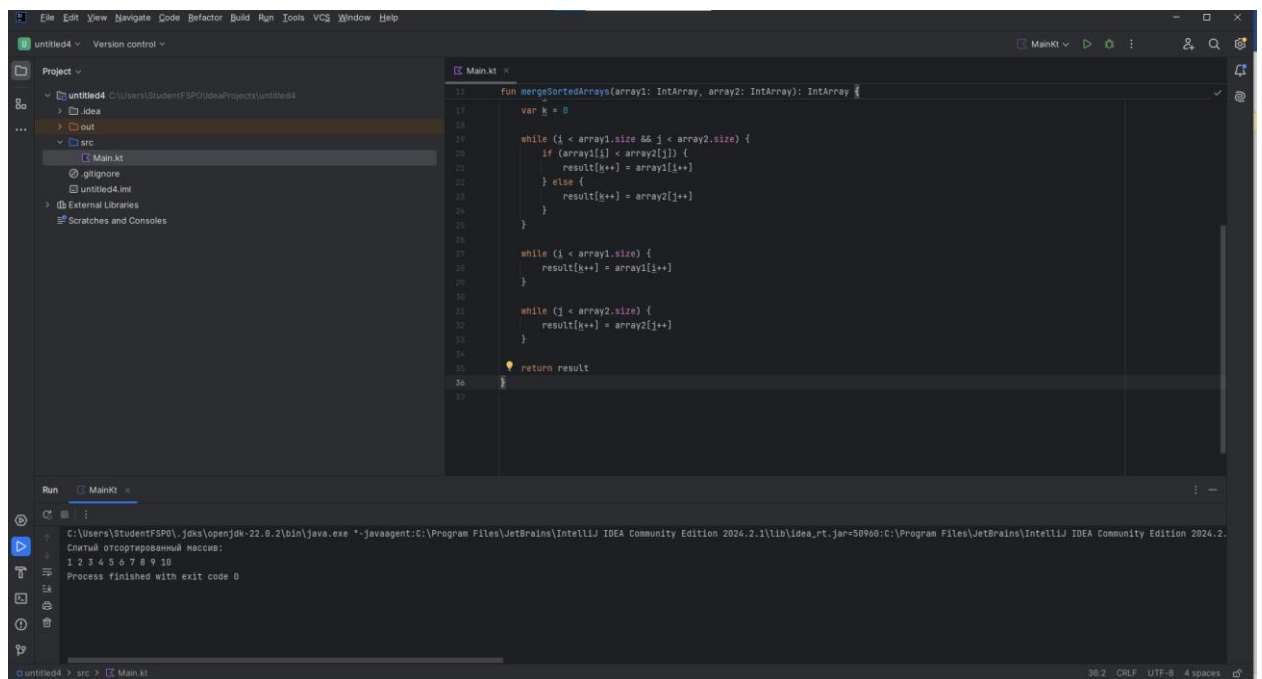
while (i < array1.size && j < array2.size) {
    if (array1[i] < array2[j]) {
        result[k++] = array1[i++]
    } else {
        result[k++] = array2[j++]
    }
}

while (i < array1.size) {
    result[k++] = array1[i++]
}

while (j < array2.size) {
    result[k++] = array2[j++]
}

return result
}

```



20)

The screenshot shows the IntelliJ IDEA interface with a project named 'untitled4'. 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 Kotlin code:

```
1 fun main() {  
2     val firstTerm = 1  
3     val commonDifference = 2  
4     val numberOfTerms = 10  
5  
6     val arithmeticProgression = IntArray(numberOfTerms) { index -> firstTerm + index * commonDifference }  
7  
8     println("Aritmeticheskaia progressiia:")  
9     for (number in arithmeticProgression) {  
10         println(number)  
11     }  
12 }  
13
```

The 'Run' view at the bottom shows the execution output:

```
C:\Users\Student\SPQ\IdeaProjects\untitled4> javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar-51018:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin\openjdk-22.0.2\bin\java.exe  
Aritmeticheskaia progressiia:  
1  
3  
5  
7  
9  
11  
13  
15  
17  
19  
Process finished with exit code 0
```

21)

The screenshot shows the IntelliJ IDEA interface with a project named 'untitled4'. 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 Kotlin code:

```
1 fun main() {  
2     val numbers = IntArray(10) { 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 }  
3  
4     val elementToRemove = 5  
5  
6     val updatedArray = removeElement(numbers, elementToRemove)  
7  
8     println("Ostannuiuia massiva:")  
9     for (number in updatedArray) {  
10         print("$number ")  
11     }  
12 }  
13  
14 fun removeElement(array: IntArray, element: Int): IntArray {  
15     val list = array.toList().toMutableList()  
16  
17     list.remove(element)  
18  
19     return list.toIntArray()  
20 }  
21
```

The 'Run' view at the bottom shows the execution output:

```
C:\Users\Student\SPQ\IdeaProjects\untitled4> javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar-51119:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin\openjdk-22.0.2\bin\java.exe  
Ostannuiuia massiva:  
1 2 3 4 6 7 8 9 10  
Process finished with exit code 0
```

22)

The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code defines a `main` function that initializes an array of integers and calls `findSecondLargest`. The `findSecondLargest` function checks if the array has at least two elements. If not, it throws an exception. It then iterates through the array to find the first and second largest values. If the second largest is not found (remains at the initial minimum value), it throws another exception. Finally, it returns the second largest value.

```
1 fun main() {
2     val numbers = intArrayOf(10, 5, 3, 7, 9, 1, 8, 2, 6, 4)
3
4     val secondLargest = findSecondLargest(numbers)
5
6     println("Второй по величине элемент: $secondLargest")
7 }
8
9 fun findSecondLargest(array: IntArray): Int {
10     if (array.size < 2) {
11         throw IllegalArgumentException("Массив должен содержать хотя бы два элемента.")
12     }
13
14     var first = Int.MIN_VALUE
15     var second = Int.MIN_VALUE
16
17     for (number in array) {
18         if (number > first) {
19             second = first
20             first = number
21         } else if (number > second && number < first) {
22             second = number
23         }
24     }
25
26     if (second == Int.MIN_VALUE) {
27         throw IllegalArgumentException("Второй максимальный элемент не найден.")
28     }
29
30     return second
31 }
```

The Run console shows the output: `Второй по величине элемент: 9` and `Process finished with exit code 0`.

23)

The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code defines a `main` function that initializes three arrays of integers and calls `mergeArrays`. The `mergeArrays` function calculates the total size of the three arrays, creates a new array of that size, and then iterates through each input array to merge their elements into the new array. Finally, it returns the merged array.

```
1 fun main() {
2     val array1 = intArrayOf(1, 2, 3)
3     val array2 = intArrayOf(4, 5, 6)
4     val array3 = intArrayOf(7, 8, 9)
5
6     val mergedArray = mergeArrays(array1, array2, array3)
7
8     println("Объединенный массив:")
9     for (number in mergedArray) {
10         print("$number ")
11     }
12 }
13
14 fun mergeArrays(vararg arrays: IntArray): IntArray {
15     // Определение размера результирующего массива
16     val totalSize = arrays.sumOf { it.size }
17     val result = IntArray(totalSize)
18
19     var index = 0
20     for (array in arrays) {
21         for (number in array) {
22             result[index++] = number
23         }
24     }
25
26     return result
27 }
```

The Run console shows the output: `Объединенный массив: 1 2 3 4 5 6 7 8 9` and `Process finished with exit code 0`.

24)

```

1 fun main() {
2     val matrix = arrayOf(
3         intArrayOf(1, 2, 3),
4         intArrayOf(4, 5, 6),
5         intArrayOf(7, 8, 9)
6     )
7
8     val transposedMatrix = transposeMatrix(matrix)
9
10    println("транспонированная матрица:")
11    for (row in transposedMatrix) {
12        for (number in row) {
13            print("$number ")
14        }
15        println()
16    }
17 }
18
19 fun transposeMatrix(matrix: Array<IntArray>): Array<IntArray> {
20     val rows = matrix.size
21     val cols = matrix[0].size
22
23     val transposedMatrix = Array(cols) { IntArray(rows) }
24
25     for (i in 0 until rows) {
26         for (j in 0 until cols) {
27             transposedMatrix[j][i] = matrix[i][j]
28         }
29     }
30
31     return transposedMatrix
32 }

```

Run MainKt

C:\Users\StudentSP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea\_rt.jar=51378:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin -Dfile.encoding=UTF-8

Транспонированная матрица:

```

1 4 7
2 5 8
3 6 9

```

Активация Windows  
Чтобы активировать Windows, перейдите в раздел "Параметры".

25)

```

1 fun main() {
2     val numbers = intArrayOf(1, 2, 3, 4, 5, 6, 7, 8, 9, 10)
3
4     val searchElement = 7
5
6     val isFound = linearSearch(numbers, searchElement)
7
8     if (isFound) {
9         println("Элемент $searchElement найден в массиве.")
10    } else {
11        println("Элемент $searchElement не найден в массиве.")
12    }
13 }
14
15 fun linearSearch(array: IntArray, element: Int): Boolean {
16     for (number in array) {
17         if (number == element) {
18             return true
19         }
20     }
21
22     return false
23 }

```

Run MainKt

C:\Users\StudentSP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea\_rt.jar=51479:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin -Dfile.encoding=UTF-8

Элемент 7 найден в массиве.

Process finished with exit code 0

Активация Windows  
Чтобы активировать Windows, перейдите в раздел "Параметры".

26)

The screenshot shows the IntelliJ IDEA interface with a project named 'untitled4'. 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 main() {
2     val numbers = intArrayOf(1, 2, 3, 4, 5)
3     val average = findAverage(numbers)
4     println("Среднее арифметическое: $average")
5 }
6
7 fun findAverage(array: IntArray): Double {
8     if (array.isEmpty()) {
9         throw IllegalArgumentException("Массив не должен быть пустым.")
10    }
11
12    val sum = array.sum()
13
14    return sum.toDouble() / array.size
15 }

```

The 'Run' view at the bottom shows the execution output: 'C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea\_rt.jar=51584:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin\java.exe -Dfile.encoding=UTF-8 Среднее арифметическое: 3.0'. The status bar at the bottom indicates '15:5 CRLF UTF-8 4 spaces'.

27)

The screenshot shows the IntelliJ IDEA interface with a project named 'untitled4'. 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 main() {
2     val numbers = intArrayOf(1, 1, 1, 2, 2, 3, 3, 3, 3, 4, 4, 4, 5, 5, 5, 5)
3     val maxSequence = findMaxSequence(numbers)
4     println("Максимальная последовательность одинаковых элементов: $maxSequence")
5 }
6
7 fun findMaxSequence(array: IntArray): Int {
8     if (array.isEmpty()) {
9         throw IllegalArgumentException("Массив не должен быть пустым.")
10    }
11
12    var currentLength = 1
13    var maxLength = 1
14
15    for (i in 1..array.size) {
16        if (array[i] == array[i - 1]) {
17            currentLength++
18            if (currentLength > maxLength) {
19                maxLength = currentLength
20            }
21        } else {
22            currentLength = 1
23        }
24    }
25
26    return maxLength
27 }

```

The 'Run' view at the bottom shows the execution output: 'C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea\_rt.jar=51622:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin\java.exe -Dfile.encoding=UTF-8 Максимальная последовательность одинаковых элементов: 5'. The status bar at the bottom indicates '2:1 CRLF UTF-8 4 spaces'.

28)

The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code defines a `main` function that prompts the user for an array size (5), reads the size, creates an `IntArray` of that size, and then prompts for each element. The elements are read and stored in the array, which is then printed.

```

1 fun main() {
2     println("Введите размер массива (например, 5):")
3     val size = readLine()!!.toInt()
4     val array = IntArray(size)
5
6     println("Введите элементы массива:")
7     for (i in 0..until< size) {
8         array[i] = readLine()!!.toInt()
9     }
10
11     println("Введенный массив:")
12     println(array.joinToString())
13 }
14
15

```

The Run window shows the execution output:

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar=51902:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin" -Didea.config.path=C:\Users\Student\SP0\IdeaProjects\untitled4 -Didea.home.path=C:\Users\Student\SP0\IdeaProjects\untitled4 -Didea.system.path=C:\Users\Student\SP0\IdeaProjects\untitled4
Введите размер массива (например, 5):
5
Введите элементы массива:
1
2
3
4
5
Введенный массив:
1, 2, 3, 4, 5
Process finished with exit code 0

```

29)

The screenshot shows the IntelliJ IDEA interface with a Kotlin file named `Main.kt`. The code defines a `main` function that prompts the user for an array size (5), reads the size, creates an `IntArray` of that size, and then prompts for each element. The elements are read and stored in the array, which is then sorted. The median is calculated based on the sorted array and printed.

```

1 fun main() {
2     println("Введите размер массива (например, 5):")
3     val size = readLine()!!.toInt()
4     val array = IntArray(size)
5
6     println("Введите элементы массива:")
7     for (i in 0..until< size) {
8         array[i] = readLine()!!.toInt()
9     }
10
11     array.sort()
12
13     val median = if (size % 2 == 1) {
14         array[size / 2]
15     } else {
16         (array[size / 2 - 1] + array[size / 2]) / 2.0
17     }
18
19     println("Медиана массива: $median")
20 }
21

```

The Run window shows the execution output:

```

C:\Users\Student\SP0\jdk\openjdk-22.0.2\bin\java.exe "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\lib\idea_rt.jar=51979:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2\bin" -Didea.config.path=C:\Users\Student\SP0\IdeaProjects\untitled4 -Didea.home.path=C:\Users\Student\SP0\IdeaProjects\untitled4 -Didea.system.path=C:\Users\Student\SP0\IdeaProjects\untitled4
Введите размер массива (например, 5):
5
Введите элементы массива:
1
2
3
4
5
Медиана массива: 3
Process finished with exit code 0

```

30)

The screenshot displays the IntelliJ IDEA interface with a Kotlin file named `Main.kt` open. The code defines a `main` function that generates 10 groups of 10 shuffled integers each, prints them, and then prints each group's elements joined by spaces. The Run window at the bottom shows the execution output, which lists 10 groups of 10 numbers each, separated by a line separator. The process finished with exit code 0. A Windows activation watermark is visible in the bottom right corner of the Run window.

```
1 fun main() {
2     val array = (1..100).toList().shuffled().toIntArray()
3
4     val groups = mutableListOf<List<Int>>()
5     for (i in 0..9 until 100 step 10) {
6         groups.add(array.slice(indices = 1..10 until i + 10))
7     }
8
9     println("pynna wceen:")
10    groups.forEachIndexed { index, group ->
11        println("pynna ${index + 1}: ${group.joinToString()}" )
12    }
13 }
14
```

Run C:\Users\Student\FSP0\jdk-openjdk-22.0.2\bin\java.exe -javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\lib\idea\_rt.jar=52185:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2024.2.1\bin\idea\_rt.jar -Didea.config.path=C:\Users\Student\FSP0\workspace\untitled4\src\Main.kt -Didea.project.path=C:\Users\Student\FSP0\workspace\untitled4

pynna wceen:

pynna 1: 59, 70, 83, 68, 81, 20, 67, 48, 57, 30

pynna 2: 27, 87, 79, 88, 46, 46, 15, 25, 51, 62

pynna 3: 36, 2, 93, 7, 17, 38, 28, 4, 61, 63

pynna 4: 44, 29, 72, 42, 64, 75, 8, 96, 47, 39

pynna 5: 78, 98, 26, 89, 50, 92, 69, 33, 85, 49

pynna 6: 97, 58, 90, 9, 91, 50, 100, 53, 40, 10

pynna 7: 94, 74, 18, 3, 11, 6, 45, 52, 34, 76

pynna 8: 16, 60, 54, 71, 35, 95, 12, 37, 19, 21

pynna 9: 24, 80, 82, 22, 14, 77, 23, 31, 41, 32

pynna 10: 84, 65, 5, 43, 55, 1, 86, 99, 13, 73

Process finished with exit code 0

Активация Windows  
Чтобы активировать Windows, перейдите в раздел "Параметры".