

Practical 1- write a program using kotlin to implement control structures and loops
Using if-else statement.

```
Val number = -10

if(number>0){

    print("positive number")

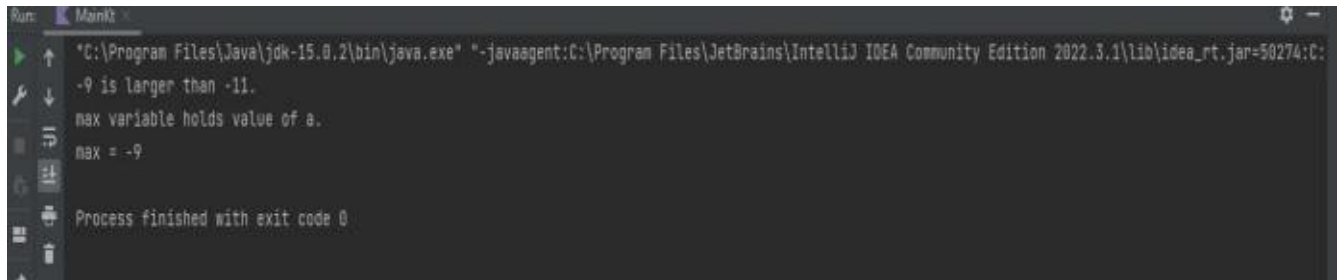
}

else{

    print("negative number")

}
```

output:

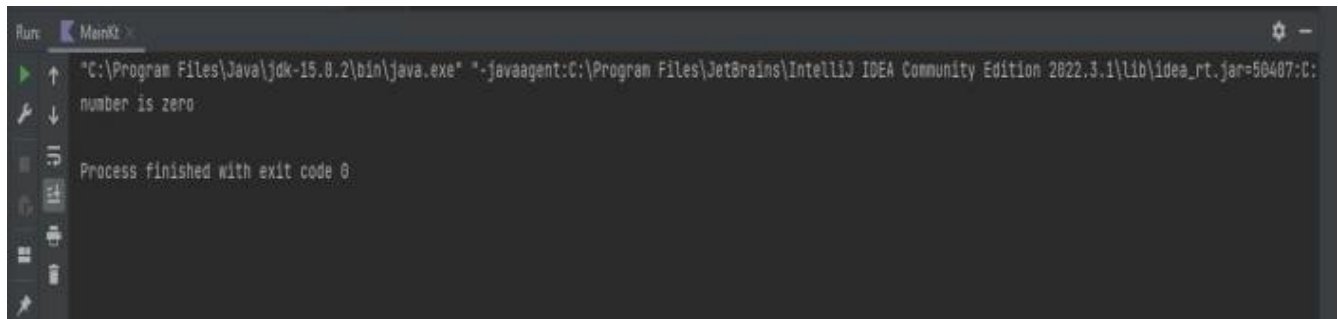
A screenshot of the IntelliJ IDEA Run console. The console shows the execution of a Kotlin program. The output is as follows:

```
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=50274:C:
-9 is larger than -11.
max variable holds value of a.
max = -9
Process finished with exit code 0
```

If-elseif ladder:

```
fun main(args: Array<String>) {
    val number = 0
    val result = if (number > 0)
        "positive number"
    else if (number < 0)
        "negative number"
    else
        "zero"
    println("number is $result")
}
```

output:

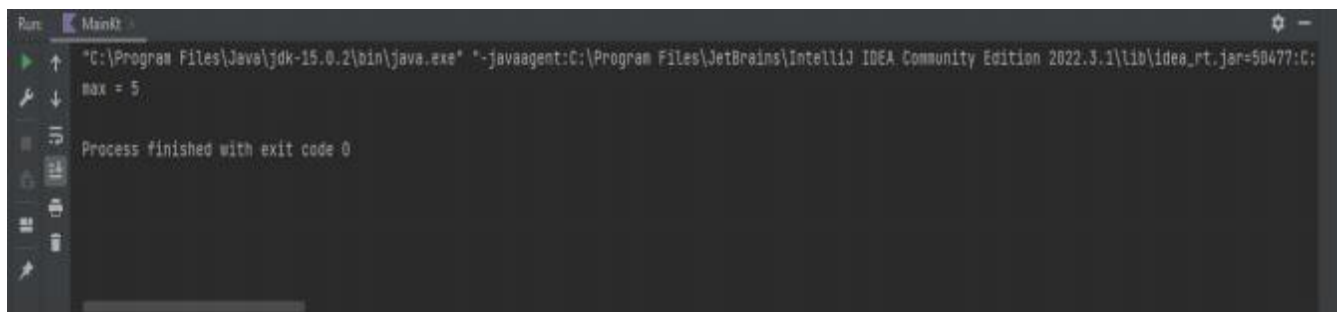
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```
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=50407:C:
number is zero
Process finished with exit code 0
```

Nested if statements:

```
fun main(args: Array<String>) {  
    val n1 = 3  
    val n2 = 5  
    val n3 = -2  
    val max = if (n1 > n2){  
        if (n1 > n3)  
            n1  
        else  
            n3  
    } else {  
        if (n2 > n3)  
            n2  
        else  
            n3  
    }  
    println("max = $max")  
}
```

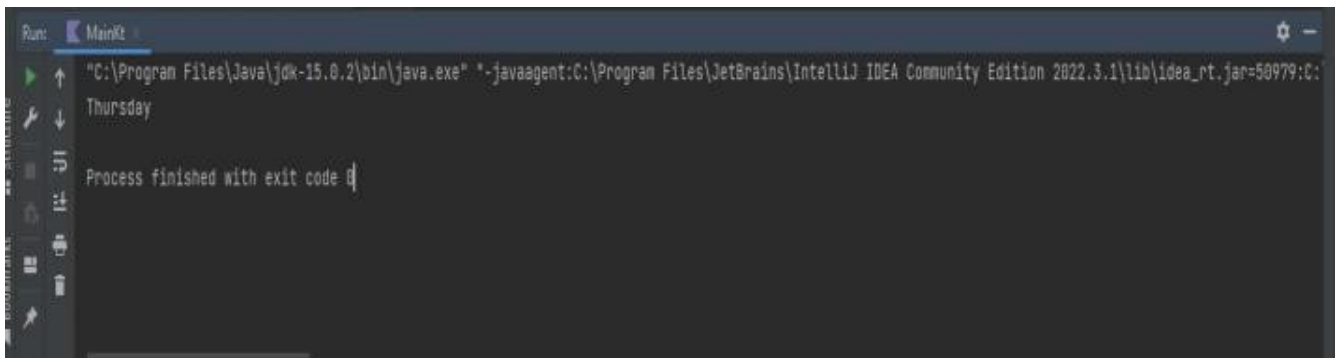
output:



when statement

```
fun main(args: Array<String>) {  
    val day = 4  
    val result = when (day) {  
        1 -> "Monday"  
        2 -> "Tuesday"  
        3 -> "Wednesday"  
        4 -> "Thursday"  
        5 -> "Friday"  
        6 -> "Saturday"  
        7 -> "Sunday"  
    }  
    else -> "Invalid day."  
    println(result)  
}
```

output:

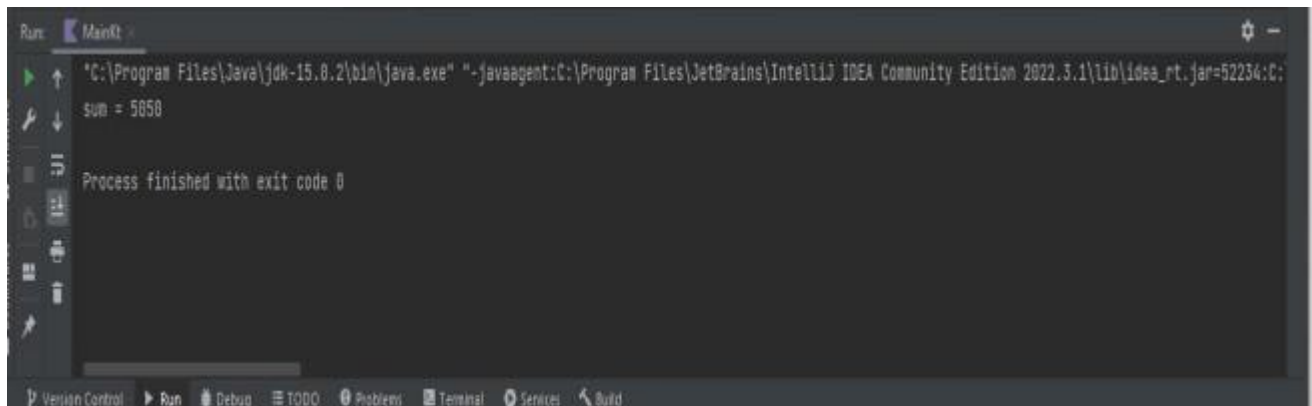


```
Run: MainKt
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=50979:C:\Program Files\Java\jdk-15.0.2\bin" -Dfile.encoding=UTF-8
Thursday
Process finished with exit code 0
```

while loop :

```
fun main(args: Array<String>) {
    var sum = 0
    var i = 100
    while (i != 0) {
        sum += i
        i--
    }
    println("sum = $sum")
}
```

output:



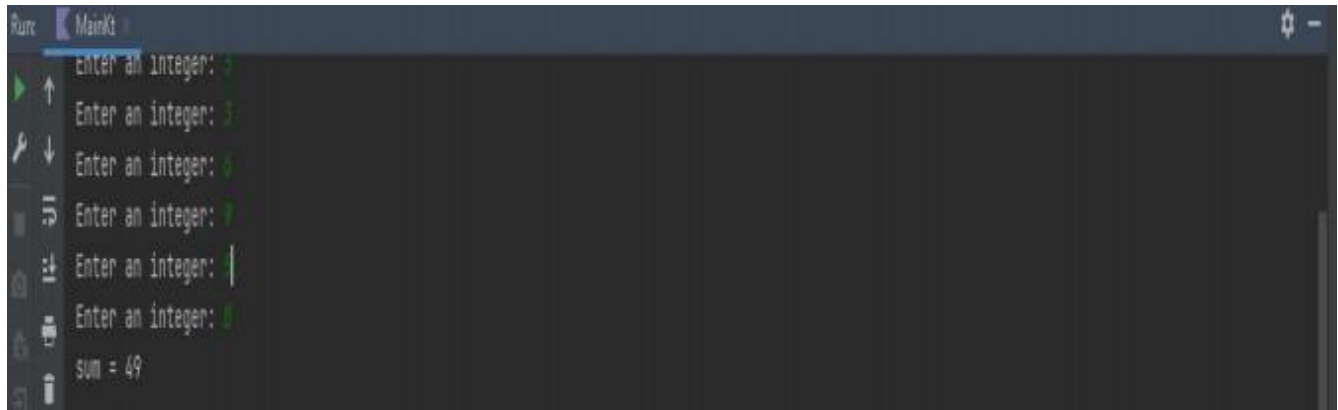
```
Run: MainKt
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=52234:C:\Program Files\Java\jdk-15.0.2\bin" -Dfile.encoding=UTF-8
sum = 5050
Process finished with exit code 0
```

Do-while loop:

```
fun main(args: Array<String>) {
    var sum: Int = 0
    var input: String

    do {
        print("Enter an integer: ")
        Input = readLine()!!
        sum += input.toInt()
    } while (input != "0")
    println("sum = $sum")
}
```

output :



```
Run MainKt
Enter an integer: 3
Enter an integer: 3
Enter an integer: 3
Enter an integer: 7
Enter an integer: 1
Enter an integer: 0
sum = 49
```

for loop

```
fun main(args: Array<String>) {

    print("for (i in 1..5) print(i) = ")
    for (i in 1..5) print(i)
    println()

    print("for (i in 5..1) print(i) = ")
    for (i in 5..1) print(i)          // prints nothing
    println()

    print("for (i in 5 downTo 1) print(i) = ")
    for (i in 5 downTo 1) print(i)

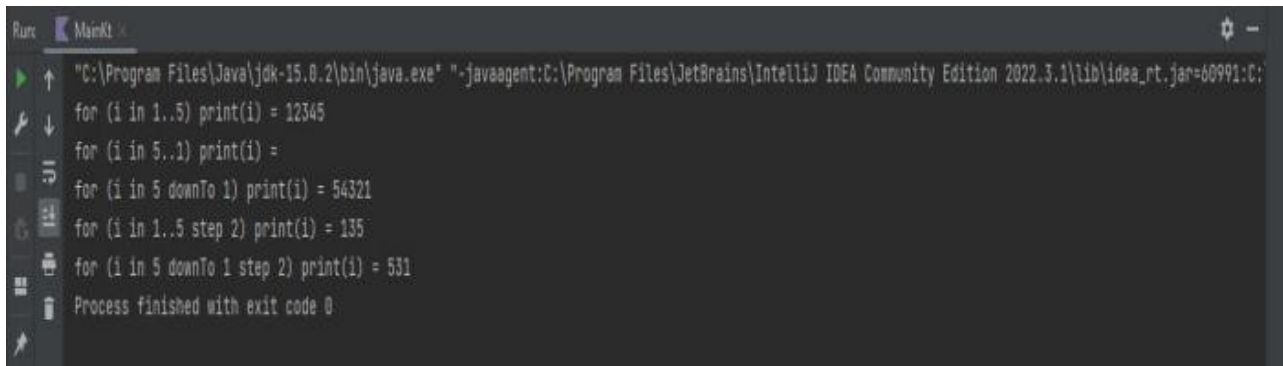
    println()

    print("for (i in 1..5 step 2) print(i) = ")
    for (i in 1..5 step 2) print(i)

    println()

    print("for (i in 5 downTo 1 step 2) print(i) = ")
    for (i in 5 downTo 1 step 2) print(i)
}
```

Output:

A screenshot of an IDE's Run console window. The title bar shows 'Run' and 'MainKt'. The console output is as follows:

```
"C:\Program Files\Java\jdk-15.0.2\bin\java.exe" "-javaagent:C:\Program Files\JetBrains\IntelliJ IDEA Community Edition 2022.3.1\lib\idea_rt.jar=60991:C:\Program Files\Java\jdk-15.0.2\bin\java.exe" -Dfile.encoding=UTF-8
for (i in 1..5) print(i) = 12345
for (i in 5..1) print(i) = 54321
for (i in 5 downTo 1) print(i) = 54321
for (i in 1..5 step 2) print(i) = 135
for (i in 5 downTo 1 step 2) print(i) = 531
Process finished with exit code 0
```

Practical 2- inheritance of class

// Superclass

```
open class MyParentClass {  
    val x = 5  
}
```

// Subclass

```
class MyChildClass: MyParentClass() {  
    fun myFunction() {  
        println(x) // x is defined in the superclass  
    }  
}
```

// Create an object of the MyChildClass and call myFunction

```
fun main() {  
    val myObj = MyChildClass()  
    myObj.myFunction()  
}
```

Output:

5