5COSC023W - Tutorial 2 Exercises Sample Solutions - Practice Kotlin

Exercise 1

```kotlin
fun main() {
    var x = 1
    val y = x

    val z = y
    x = 2

    println(x)
    println(y)
    println(z)
}
```

z is constant and it cannot be changed.

Exercise 2

```kotlin
fun other(s: String): String {
    var s2 = ""
    for (i in 0 until s.length step 2)
      s2 += s[i]

    return s2
}

fun main() {
  println(other("cement"))
}
/* Output:
cmn
*/
```

Execise 3

```kotlin
fun sum(a: Double, b: Double, c: Double): Double {
    var results = a + b + c
```

```kotlin
    return results
}

fun main() {
  println(sum (4.0, 5.0, 11.0))
}
```

or

```kotlin
fun sum(a: Double, b: Double, c: Double) =
    a + b + c

fun main() {
  println(sum (4.0, 5.0, 11.0))
}
```

Exercise 4

```kotlin
fun createNewList(old_list: List<Int>, n1: Int, n2: Int): List<Int> {
    var new_list = mutableListOf<Int>()

    for (e in old_list)
       if (n1 <= e && e <= n2)
          new_list.add(e)

    return new_list
}


fun main() {
    var list = listOf(5, 100, 10, -1, 200, 66)

    var list2 = createNewList(list, 2, 150)
    for (i in list2)
        print("$i ")
}
```

Exercise 5

```kotlin
fun everyFifth(start: Int, end: Int) {
    for (i in start..end)
        if ((i - start) % 5 == 4)
            println(i)
}

fun main() {
  everyFifth(11, 30)
}
```

Exercise 6

```kotlin
fun everyFifthNonSpace(s: String) {
    var count = 0
    for (i in 0..s.length-1) {
      if (s[i] != ' ')
        ++count
      if (count == 5) {
        println(s[i])
        count = 0
      }
    }
}

fun main() {
  everyFifthNonSpace("abc d e fgh ik")
}
```

Exercise 7

```kotlin
fun countDigits(number: Int, digit: Int): Int {
  var worker = number
  var occurrences = 0
  while (worker > 0) {
      var rightmost_digit = worker % 10
      worker = worker / 10
      if (rightmost_digit == digit)
        ++occurrences
  }
  return occurrences
}

fun main() {
  println(countDigits(764241, 4)) // 2
}
```