Session 7:
Scala Basics 1

Assignment

Task 1

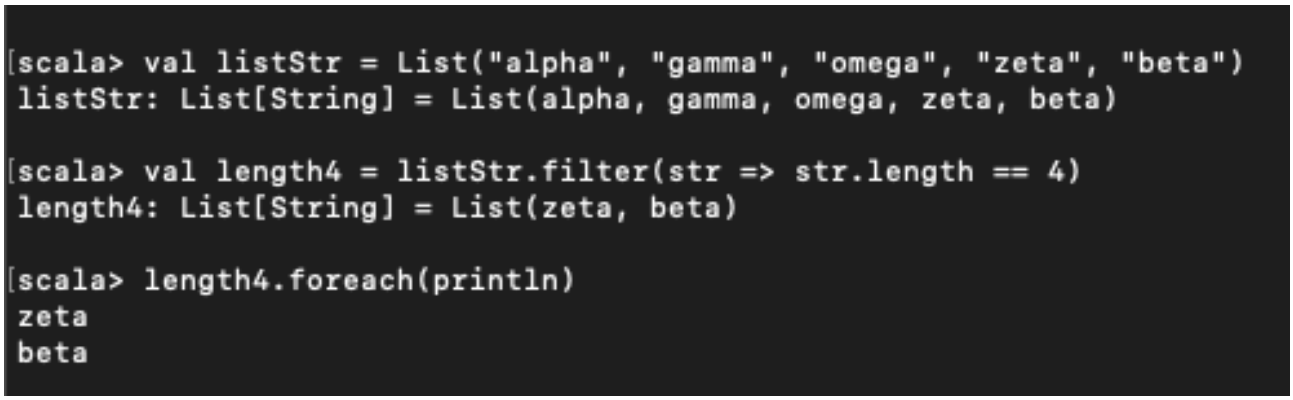
Given a list of strings - List[String] (“alpha”, “gamma”, “omega”, “zeta”, “beta”)

- **Find count of all strings with length 4.**

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val length4 = listStr.filter(str => str.length == 4)
length4: List[String] = List(zeta, beta)

scala> length4.foreach(println)
zeta
beta
```



- **Convert the list of string to a list of integers, where each string is mapped to its corresponding length.**

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val listInt = listStr.map(str => str.length)
listInt: List[Int] = List(5, 5, 5, 4, 4)

scala> listInt.foreach(println)
5
5
5
4
4
```

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val listInt = listStr.map(str => str.length)
listInt: List[Int] = List(5, 5, 5, 4, 4)

scala> listInt.foreach(println)
5
5
5
4
4
```

- **Find count of all strings which contain alphabet ‘m’.**

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val countStrM = listStr.filter(str => str.contains("m")).length
countStrM: Int = 2
```

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val countStrM = listStr.filter(str => str.contains("m")).length
countStrM: Int = 2
```

- **Find the count of all strings which start with the alphabet ‘a’.**

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val strStratWithA = listStr.filter(str => str.startsWith("a")).length
strStratWithA: Int = 1
```

```
scala> val listStr = List("alpha", "gamma", "omega", "zeta", "beta")
listStr: List[String] = List(alpha, gamma, omega, zeta, beta)

scala> val strStratWithA = listStr.filter(str => str.startsWith("a")).length
strStratWithA: Int = 1
```

Task 2

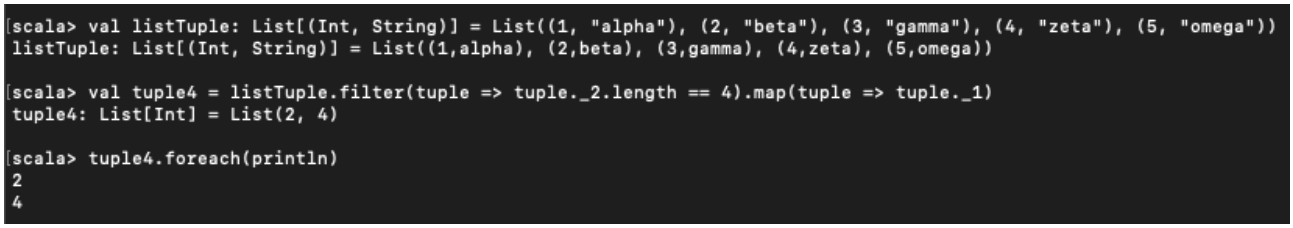
Create a list of tuples, where the 1st element of the tuple is an int and the second element is a string.
Example - ((1, ‘alpha’), (2, ‘beta’), (3, ‘gamma’), (4, ‘zeta’), (5, ‘omega’))

- **For the above list, print the numbers where the corresponding string length is 4.**

```
scala> val listTuple: List[(Int, String)] = List((1, "alpha"), (2, "beta"), (3, "gamma"), (4, "zeta"), (5, "omega"))
listTuple: List[(Int, String)] = List((1,alpha), (2,beta), (3,gamma), (4,zeta), (5,omega))

scala> val tuple4 = listTuple.filter(tuple => tuple._2.length == 4).map(tuple => tuple._1)
tuple4: List[Int] = List(2, 4)

scala> tuple4.foreach(println)
2
4
```



- **Find the average of all numbers, where the corresponding string contains alphabet ‘m’ or alphabet ‘z’.**

```
scala> val listTuple: List[(Int, String)] = List((1, "alpha"), (2, "beta"), (3, "gamma"), (4, "zeta"), (5, "omega"))
listTuple: List[(Int, String)] = List((1,alpha), (2,beta), (3,gamma), (4,zeta), (5,omega))

scala> val tupleMZ = listTuple.filter(tuple => tuple._2.contains("m") || tuple._2.contains("z")).map(tuple => tuple._1)
tupleMZ: List[Int] = List(3, 4, 5)

scala> val avg = tupleMZ.sum / tupleMZ.length
avg: Int = 4

scala> println(avg)
4
```