

# Assignment14

## Problem Statement

### Task 1

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

➔ Create List:

Command : val list = List[String] ("alpha", "gamma", "omega", "zeta", "beta")

```
acadgild@localhost:~  
[acadgild@localhost ~]$ scala  
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_151).  
Type in expressions for evaluation. Or try :help.  
  
scala> val list = List[String] ("alpha", "gamma", "omega", "zeta", "beta")  
list: List[String] = List(alpha, gamma, omega, zeta, beta)  
  
scala>
```

Find count of all strings with length 4.

➔ Command : list.count(s=> s.length == 4)

```
acadgild@localhost:~  
[acadgild@localhost ~]$ scala  
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_151).  
Type in expressions for evaluation. Or try :help.  
  
scala> val list = List[String] ("alpha", "gamma", "omega", "zeta", "beta")  
list: List[String] = List(alpha, gamma, omega, zeta, beta)  
  
scala> list.count(s=> s.length == 4)  
res0: Int = 2  
  
scala>
```

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

➔ Use map functions as below:

Command : list.map(s=> s.length)

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

scala> list.map(s=> s.length)
res6: List[Int] = List(5, 5, 5, 4, 4)

scala> █
```

Find count of all strings which contain alphabet 'm'.

➔ Command : list.count(s=> s.contains('m'))

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

scala> list.count(s=>s.contains('m'))
res0: Int = 2

scala> █
```

Find the count of all strings which start with the alphabet 'a'.

➔ Command : list.count(s=> s(0) == 'a')

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

scala> list.count(s=> s(0) == 'a')
res5: Int = 1

scala> █
```

## 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'))

➔ Create a list\_of\_tuple using command below:

Command : val list\_of\_tuple = List[(Int, String)] ((1,"alpha"), (2,"beta"), (3,"gamma"), (4, "zeta"), (5, "omega"))

```
acadgild@localhost:~$ scala
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_151).
Type in expressions for evaluation. Or try :help.

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

scala>
```

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

➔ Command: list\_of\_tuple.foreach(t=> if (t.\_2.length == 4) println(t.\_1))

```
acadgild@localhost:~$ scala
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_151).
Type in expressions for evaluation. Or try :help.

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

scala> list_of_tuple.foreach(t=> if (t._2.length == 4) println(t._1))
2
4

scala>
```

Find the average of all numbers, where the corresponding string contains alphabet 'm' or alphabet 'z'.

Create a list\_of\_tuple using command below:

→ Command : `val list_of_tuple = List[(Int, String)] ((1,"alpha"), (2,"beta"), (3,"gamma"), (4, "zeta"), (5, "omega"))`

Create two variables sum and no\_of\_matching\_elements and initialize them to 0

→ `var sum = 0`

→ `var no_of_matching_elements = 0`

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

scala> var sum = 0
sum: Int = 0

scala> var no_of_matching_elements = 0
no_of_matching_elements: Int = 0

scala> █
```

Iterate over the list of tuples and sum the numbers and increment no\_of\_matching\_elements for which string value contains either alphabet 'm' or 'z'

→ Command : `list_of_tuple.foreach(t=> if (t._2.contains('m') || t._2.contains('z')) {`  
    `| sum += t._1`  
    `| no_of_matching_elements += 1`  
    `| }`  
    `| }`

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

scala> var sum = 0
sum: Int = 0

scala> var no_of_matching_elements = 0
no_of_matching_elements: Int = 0

scala> list_of_tuple.foreach(t=> if (t._2.contains('m') || t._2.contains('z')) {
|     sum += t._1
|     no_of_matching_elements += 1
|   }
|   }

scala> █
```

Calculate average by dividing sum by no\_of\_matching\_element and print the average

→ Command: val average = sum.toFloat / no\_of\_matching\_elements.toFloat

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

scala> var sum = 0
sum: Int = 0

scala> var no_of_matching_elements = 0
no_of_matching_elements: Int = 0

scala> list_of_tuple.foreach(t=> if (t._2.contains('m') || t._2.contains('z')) {
|   sum += t._1
|   no_of_matching_elements += 1
| })

scala> val average = sum.toFloat / no_of_matching_elements.toFloat
average: Float = 4.0

scala>
```

→ Command: println(average)

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

scala> var sum = 0
sum: Int = 0

scala> var no_of_matching_elements = 0
no_of_matching_elements: Int = 0

scala> list_of_tuple.foreach(t=> if (t._2.contains('m') || t._2.contains('z')) {
|   sum += t._1
|   no_of_matching_elements += 1
| })

scala> val average = sum.toFloat / no_of_matching_elements.toFloat
average: Float = 4.0

scala> println(average)
4.0

scala>
```