Session 12

Assignment 3

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# Change History

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# Problem Statement

Create a list of tuples, where the 1st element of the tuple is an int and the secondelement 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
* find the average of all numbers, where the corresponding string contains alphabet ‘m’or alphabet ‘z’

# Solution

Using scala the following commands were executed.

## Create a list of tuples, where the 1st element of the tuple is an int and the second element is a string:

*scala> val tuple1 =List((1,"alpha"),(2,"beta"),(3,"gamma"),(4,"zeta"),(5,"omega"))*

*tuple1: List[(Int, String)] = List((1,alpha), (2,beta), (3,gamma), (4,zeta), (5,omega))*

In the above command, we use the **List** command to create the tuples

## Count of the number of Strings with length 4

*scala> val word4 = tuple1.count(s=>s.\_2.length == 4)*

*word4: Int = 2*

## For each string with length 4, print the 1st part of the tuple (number: int)

*scala> val word4\_1 = tuple1.foreach (s=> if (s.\_2.length==4) println (s.\_1))*

*2*

*4*

*word4\_1: Unit = ()*

**beta and zeta (2 and 4)**

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

Filter the list by checking the 2nd part of the tuple (string part) if it contains either ‘m’ or ‘z’

scala> val wordavg = tuple1.filter(s=> s.\_2.contains("m")||s.\_2.contains("z"))

wordavg: List[(Int, String)] = List((3,gamma), (4,zeta), (5,omega))

ga**mm**a, **z**eta and o**m**ega

Using the filtered list **wordavg**, map all the elements to their numeral part (1st)

*scala> val wordmap = wordavg.map(s=> s.\_1)*

*wordmap: List[Int] = List(3, 4, 5)*

Using the **foldLeft** command which sequentially adds all numbers starting from the left, we get the multiplication of the numeral part of the mapped list.

*scala> val sum = wordmap.foldLeft(0)((x,y)=> x+y)*

*sum: Int = 12*

Finding the count of numbers in the mapped list by finding the length of the list

scala> val count = wordmap.length

count: Int = 3scala> val count = wordmap.length

Finding the average of the numbers in the mapped list using the **sum** and **count** variables

*scala> val wordavg =sum / count*

*wordavg: Int = 4*