Assignment Day 14

Task 1:

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

- Find count of all strings with length 4.

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

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

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

Ans:

Note: The _ acts as a placeholder for parameters in the anonymous function. Here the _ refers to the parameter.

e.g. foreach(**print(_)**) and foreach(**a => print(a)**) are same .

var str_list = **List(**"alpha", "gamma", "omega", "zeta", "beta"**)**

Exp: (Storing a list of Strings within str_list**)**

1. Find count of all strings with length 4.

str_list.**count**(_**.length**==4)

//str_list.**filter**(_.length==4).length

Exp: (This can be done by two ways as listed above. Can count the the length of each item within list to be equal to 4 & select those items //**or** filter the list based on item length equal to 4 & find the length of the returned list**).**

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

val count_str = str_list**.map(str=>(str,str.length))**

Exp: (Iterating through the entire list & using map function fetching the particular item & it’s length in order to store into a new list called count_str**)**

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

str_list**.count(_.contains("m"))**

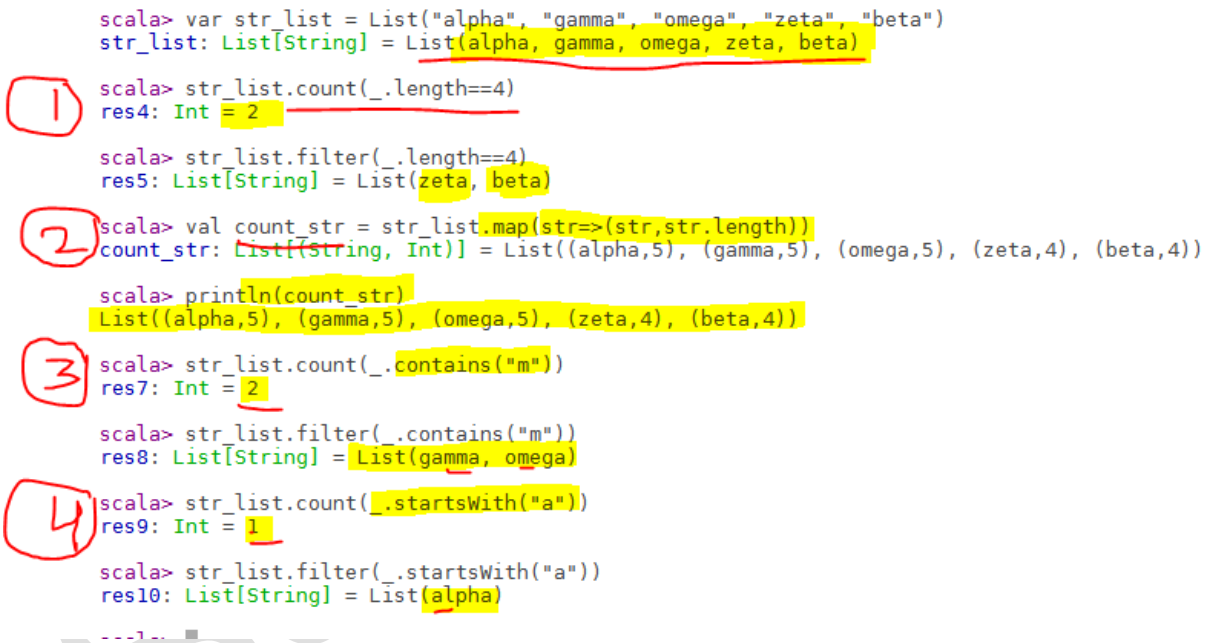
Exp: (Within the list str_list counting the occurrence of all such items that has an alphabet ‘m’.**)**

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

str_list**.count(_.startsWith("a"))**

Exp: (Counting the occurrence of all the Strings within the list that starts with the alphabet ‘a’**)**

ScreenShot:



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’))

var **lst_tup** = **List**((1, "alpha"), (2, "beta"), (3, "gamma"), (4, "zeta"), (5, "omega"))

Exp: (**lst_tup**, a list of tuples, where the 1st element of the tuple is an int and the second

element is a string.**)**

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

Ans:

var i = 0 // Declaring an Int var i & initialising it to zero.

// Saving the count of all those tuples whose string length is equal to 4 & saving the //count within upper_lmt var. "_" fetches the items from the list & **"._2"** fetches the //second item within the tuple.

var upper_lmt = lst_tup.**filter**(_._2.**length**==4).**length**

//Iterating through the list of tuples till the upper count that was calculated earlier.

while (i< upper_lmt) {

//Printing all the numbers from tuples by selecting them using ._1 where //corresponding String length is 4

println(lst_tup.**filter**(_._2.**length**==4)(i)._1)

//incrementing value of i by 1 after each iteration

i += 1

}

Exp: (Printing value from lst_tup where the corresponding string length is **4.)**

ScreenShot:

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

scala> var i = 0 // Declaring an Int var i & initialising it to zero.
i: Int = 0

scala> // Saving the count of all those tuples whose string length is equal to 4 & saving the //count within upper_lmt var. "_" fetches the items
 from the list & "._2" fetches the //second item within the tuple.

scala> var upper_lmt = lst_tup.filter(_._2.length==4).length
upper_lmt: Int = 2

scala> //Iterating through the list of tuples till the upper count that was calculated earlier.

scala> while (i< upper_lmt) {
     | //Printing all the numbers from tuples by selecting them using ._1 where //corresponding String length is 4
     |     println(lst_tup.filter(_._2.length==4)(i)._1)
     | //incrementing value of i by 1 after each iteration
     | i += 1
     | }
2
4
```

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

Ans:

```
var i = 0 // Declaring an Int var i & initialising it to zero.


var sum = 0 // Declaring an Int var sum & initialising it to zero.


// Saving the count of all those tuples whose string contains letter "m" or "z" using
//"||"(OR) Boolean Operator & saving the count within upper_lmt var. "_" fetches
//the items from the list & "._2" fetches the second item within the tuple.

var upper_lmt = lst_tup.filter(x=>x._2.contains("m") ||
x._2.contains("z")).length


//Iterating through the list of tuples till the upper count that was calculated earlier.

while (i< upper_lmt) {


//Adding all the numbers from tuples by selecting them using ._1 where
//corresponding String contains letter "m" or "z" using "||"(OR) Boolean Operator &
//saving the count within variable sum

sum+=lst_tup.filter(x=>x._2.contains("m") || x._2.contains("z"))(i)._1


//incrementing value of i by 1 after each iteration.

i += 1

}

//Calculating the avg by dividing total sum from length & Printing the Avg

println("Avg is : "+sum/upper_lmt)
```

Exp: (Printing the average sum of all numbers, where the corresponding string contains alphabet 'm' or alphabet 'z'.**)**

ScreenShot:

```
scala> var i = 0 // Declaring an Int var i & initialising it to zero.
i: Int = 0

scala>

scala> var sum = 0 // Declaring an Int var sum & initialising it to zero.
sum: Int = 0

scala>

scala> // Saving the count of all those tuples whose string contains letter “m” or “z” using //“||”(OR) Boolean Operator & saving the count withi
n upper_lmt var. ”_” fetches //the items from the list & “._2” fetches the second item within the tuple.

scala> var upper_lmt = lst_tup.filter(x=>x._2.contains("m") || x._2.contains("z")).length
upper_lmt: Int = 3

scala>

scala> //Iterating through the list of tuples till the upper count that was calculated earlier.

scala> while (i< upper_lmt) {
     |
     | //Adding all the numbers from tuples by selecting them using ._1 where //corresponding String contains letter “m” or “z” using “||”(OR) Bo
olean Operator & //saving the count within variable sum
     | sum+=lst_tup.filter(x=>x._2.contains("m") || x._2.contains("z"))(i)._1
     |
     | //incrementing value of i by 1 after each iteration.
     | i += 1
     | }

scala>

scala> //Calculating the avg by dividing total sum from length & Printing the Avg

scala> println("Avg is : "+sum/upper_lmt)
Avg is : 4
```


********** **End** **********