TASK 1:

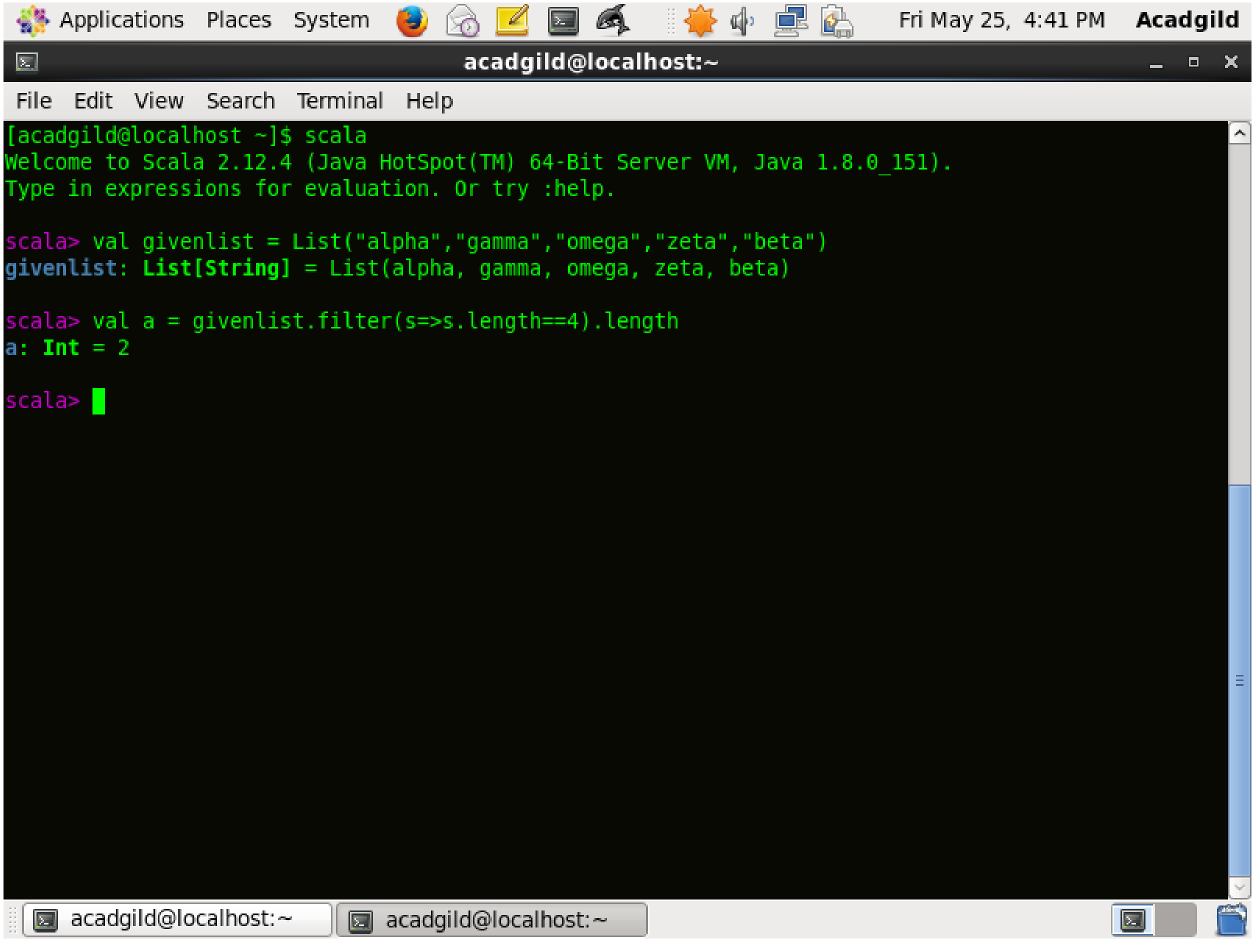
Using scala shell to do the assignment. To start the shell just give the command 'scala'

Usint List keyword to make a new list

Filter function is used on the list with condition that length of string is equal to 4

Using length function on the output of filter function to find the number of stringwith length 4

As one can see the value of 'a' variable is 2 which is our answer



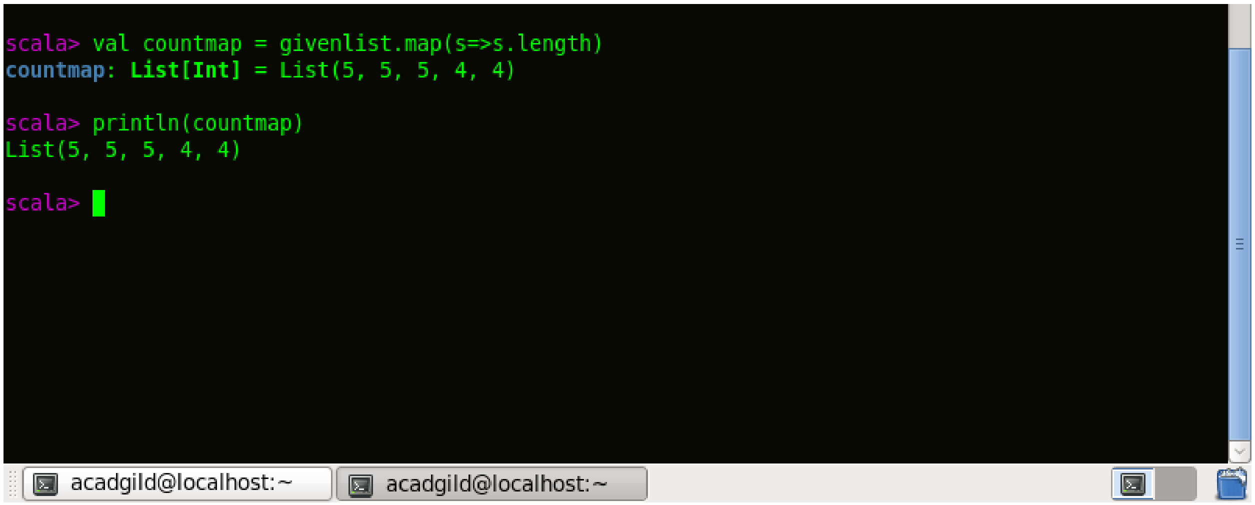
```
[acadgild@localhost ~]$ scala
Welcome to Scala 2.12.4 (Java HotSpot(TM) 64-Bit Server VM, Java 1.8.0_151).
Type in expressions for evaluation. Or try :help.

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

scala> val a = givenlist.filter(s=>s.length==4).length
a: Int = 2

scala> 
```

Using variable countmap to store the mapped output of the length of the strings in the list by using the map function and storing the length by using the length function



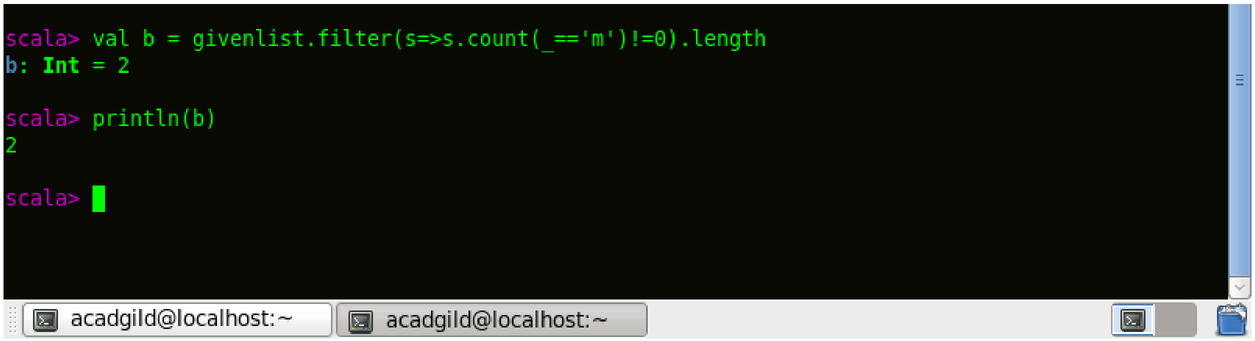
```
scala> val countmap = givenlist.map(s=>s.length)
countmap: List[Int] = List(5, 5, 5, 4, 4)

scala> println(countmap)
List(5, 5, 5, 4, 4)

scala> 
```

Again using the filter function to check the condition of if string contains character ‘m’ by using count function on the incoming strings and checking if each character is ‘m’ and checking if the otal count is not equal o zero.

Finally applying length function on the filtered output to get the desired result



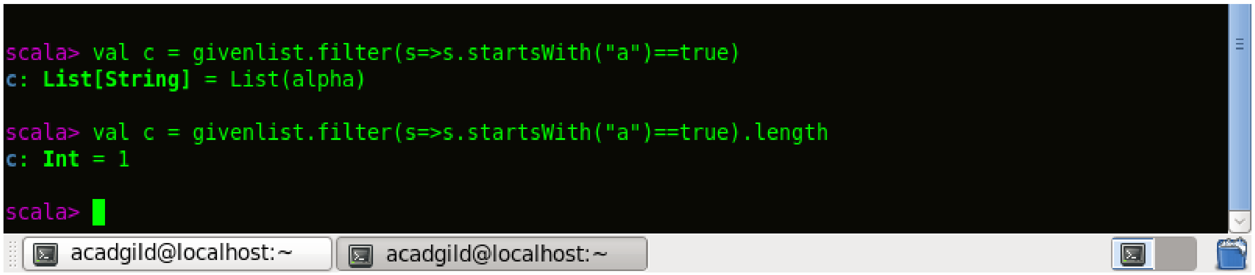
```
scala> val b = givenlist.filter(s=>s.count(_=='m')!=0).length
b: Int = 2

scala> println(b)
2

scala> 
```

Similar to the previous example, using startsWith function on string instead of count

And then applying length function



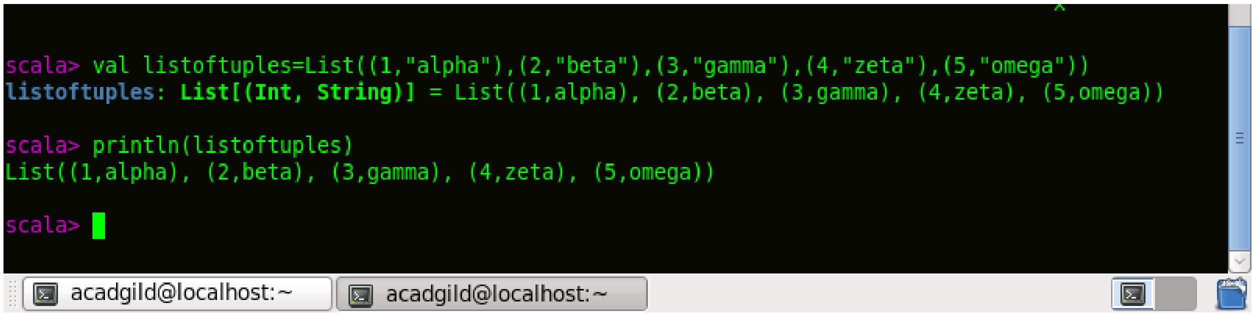
```
scala> val c = givenlist.filter(s=>s.startsWith("a")==true)
c: List[String] = List(alpha)

scala> val c = givenlist.filter(s=>s.startsWith("a")==true).length
c: Int = 1

scala> 
```

Task 2:

Creating a list which contains tuples containing an integer and string

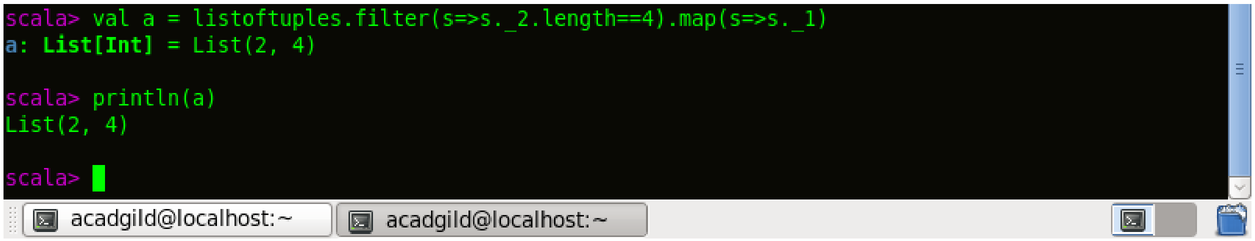


```
scala> val listoftuples=List((1,"alpha"),(2,"beta"),(3,"gamma"),(4,"zeta"),(5,"omega"))
listoftuples: List[(Int, String)] = List((1,alpha), (2,beta), (3,gamma), (4,zeta), (5,omega))

scala> println(listoftuples)
List((1,alpha), (2,beta), (3,gamma), (4,zeta), (5,omega))

scala> 
```

Here we have to print the integers correspong to the string whose length is 4 so first using filter to remove the tuples according to condition and the using map function to map only the integer values to a list ‘a’



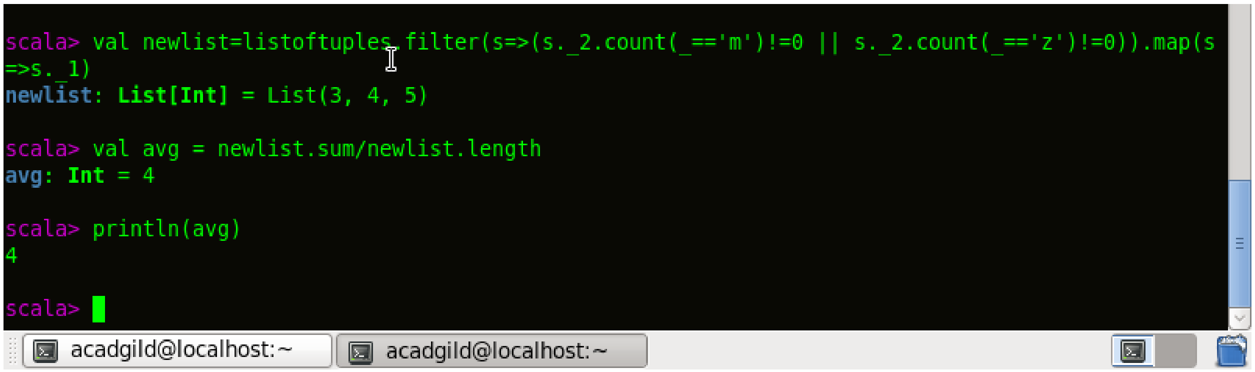
```
scala> val a = listoftuples.filter(s=>s._2.length==4).map(s=>s._1)
a: List[Int] = List(2, 4)

scala> println(a)
List(2, 4)

scala> 
```

Again using filter function according to condition and using map to store the list in variable newlist

the storing in ‘avg’ variable the output of sum function divided by length function to get average



```
scala> val newlist=listoftuples.filter(s=>(s._2.count(_=='m')!=0 || s._2.count(_=='z')!=0)).map(s
=>s._1)
newlist: List[Int] = List(3, 4, 5)

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

scala> println(avg)
4

scala> 
```