Assignment 12.2

Problem Statement

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

12.2.1- find count of all strings with length 4

```
//List declaration and initialization

var waves : List[String] =
List("alpha","gamma","omega","zeta","beta");

var a = 0;

//Variable declaration to calculate the count of strings

var sum = 0;

//yield operator declaration and predicate declaration to verify the
strings with length equal to 4.

var retval = for{ a<- waves

                  if a.length == 4

}yield a

//traversing through the list

for(a  <- retval){

sum+=1;

}

//display the sum calculated above

println("Total count of all strings in the LIST with length 4 : " +
sum)
```

Output12.2.1 :

```
scala> var waves : List[String] = List("alpha","gamma","omega","zeta","beta");
waves: List[String] = List(alpha, gamma, omega, zeta, beta)

scala>

scala> var a = 0;
a: Int = 0

scala>

scala> var sum = 0;
sum: Int = 0

scala>

scala> var retval = for{ a <- waves
     |                   if a.length == 4
     |                  }yield a
retval: List[String] = List(zeta, beta)

scala>

scala> for(a  <- retval){
     |
     | sum+=1;
     |
     | }

scala>

scala> println("Total count of all strings in the LIST with length 4 : " + sum)
Total count of all strings in the LIST with length 4 : 2

scala>
```

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

---

```
//List declaration

var waves : List[String] =
List("alpha","gamma","omega","zeta","beta")

var a = 0

//empty list declaration

var x : List[Int] = Nil

//traversing through the list

for(a  <- waves){

//Calculating the length of each element in list
```

```
vallen = a.length
//Adding element to empty list x
x  =len :: x
}
//printing the list in same order as it is in List waves.
println(" List of Integers : " + x.reverse)
```

Output 12.2.2:

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

scala>

scala> var a = 0
a: Int = 0

scala>

scala> var x : List[Int] = Nil
x: List[Int] = List()

scala>

scala>

scala> for(a  <- waves){
     |
     | val len = a.length
     |
     | x  = len :: x
     |
     | }

scala>

scala> println(" List of Integers : " + x.reverse)
 List of Integers : List(5, 5, 5, 4, 4)

scala>
```

12.2.3- find count of all strings which contain alphabet ‘m’

```
12.2.3- find count of all strings which contain alphabet ‘m’
//Importing the package for Breaks class
import scala.util.control._
var loops = new Breaks
//List declaration

var waves : List[String] =
List("alpha","gamma","omega","zeta","beta")
var a = 0
var sum = 0
println(waves.length)

//Traversing through the LIST
for(a  <- waves){

//Conversion an element to Character array
 var ca = a.toCharArray

//Length/Size of each element
 vallen = ca.length
  var add = 1
  var i = 0

  loops.breakable{
//Traversing through each character array
     for(i<- 0 to (ca.length-1)){

//Verify whether the character is having alphabet ‘m’
       if(ca(i)== 'm'){
         sum += 1
         loops.break}
       }
 }
 }

//display the sum calculated above
println("Total count of all strings which contain alphabet ‘m’ : "+
sum)
```

Output 12.2.3 :

```
scala> import scala.util.control._
import scala.util.control._

scala> var loops = new Breaks
loops: scala.util.control.Breaks = scala.util.control.Breaks@5d0509d9

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

scala> var a = 0
a: Int = 0

scala> var sum = 0
sum: Int = 0

scala> println(waves.length)
5

scala> for(a  <- waves){
     |  var ca = a.toCharArray
     |  val len = ca.length
     |  var add = 1
     |  var i = 0
     |
     |  loops.breakable{
     |
     |      for(i <- 0 to (ca.length-1)){
     |        if(ca(i)== 'm'){
     |          sum += 1
     |          loops.break}
     |       }
     |  }
     |  }

scala> println("Total count of all strings which contain alphabet 'm' : "+ sum)
Total count of all strings which contain alphabet 'm' : 2
```

12.2.4- find the count of all strings which start with the alphabet 'a'

```
//List declaration

var waves : List[String] =
List("alpha","gamma","omega","zeta","beta");

//variable declaration to store the total count

var sum = 0;

var a = 0;

//traversing through the list

for(a  <- waves){

//conversion of each element of list into character array

val ca = a.toCharArray

//verify whether the first character of each element contains "a"
```

```
if(ca(0) == 'a'){
   sum += 1 }
}
//display the sum calculated above
println("Total count of all strings which starts with the alphabet ‘a’ : "+ sum)
```

Output 12.2.4:

```
scala> var waves : List[String] = List("alpha","gamma","omega","zeta","beta");
waves: List[String] = List(alpha, gamma, omega, zeta, beta)

scala>

scala> var sum = 0;
sum: Int = 0

scala>

scala> var a = 0;
a: Int = 0

scala>

scala> for(a  <- waves){
     |
     | val ca = a.toCharArray
     |
     | if(ca(0) == 'a'){
     |
     |    sum += 1 }
     |
     | }

scala>

scala> println("Total count of all strings which starts with the alphabet ‘a’ : "+ sum)
Total count of all strings which starts with the alphabet ‘a’ : 1

scala>
```