

## SCS 2204 - Functional Programming

## Scala Tutorial – 4

Question 01

```

1  package Package
2  import scala.io.StdIn.readDouble
3
4  object q1 {
5      var interest = 0.0
6
7      def main(args: Array[String]): Unit = {
8          print("Enter the Deposit amount : ")
9          var depositAmount = readDouble()
10         findInterest(depositAmount)
11     }
12
13     def findInterest(depamout: Double): Unit = {
14         var interest = 0.00
15         if(depamout <= 20000){
16             interest = 2.0/100.0
17             finalAmounts(depamout, interest)
18         }
19
20         else if(depamout <= 200000){
21             interest = 4.0/100.0
22             finalAmounts(depamout, interest)
23         }
24         else if(depamout <= 2000000){
25             interest = 3.5/100.0
26             finalAmounts(depamout, interest)
27         }
28         else{
29             interest = 6.5/100.0
30             finalAmounts(depamout, interest)
31         }
32     }
33
34     def finalAmounts(dAmount: Double , iAmount: Double): Unit = {
35         var interestAmount = dAmount * iAmount
36         println(s"The interest earned on Rs. $dAmount = Rs. $interestAmount")
37     }
38 }

```

Run: q1 ×

```

"C:\Program Files\Java\jdk1.8.0_181\bin\java.exe" ...
Enter the Deposit amount : 50000
The interest earned on Rs. 50000.0 = Rs. 2000.0
Process finished with exit code 0

```

Question 02

The screenshot shows an IDE with a project named 'Tutorial04'. The file explorer on the left shows the project structure: `.bsp`, `.idea`, `project [Tutorial04-build] sources root`, `src` (containing `main` and `test`), `target`, `build.sbt`, `External Libraries`, and `Scratches and Consoles`. The `main` directory contains a `scala` package with files `q1`, `q2`, and `q3`. The `q2.scala` file is selected, showing the following code:

```
1 package Package
2 import scala.io.StdIn.readInt
3
4 object q2 {
5   def main(args: Array[String]): Unit = {
6     print("Enter the Integer : ")
7     var number = readInt()
8
9     PatternMatching(number)
10  }
11
12  def PatternMatching(num: Int): Unit = {
13    num match {
14      case num if (num <= 0) => println("Negative/Zero")
15      case num if (num % 2 == 0) => println("Even number")
16      case _ => println("Odd number")
17    }
18  }
19 }
```

The Run tab at the bottom shows the execution of `q2`. The command executed is `"C:\Program Files\Java\jdk1.8.0_181\bin\java.exe" ...`. The output is:

```
Enter the Integer : 57
Odd number
Process finished with exit code 0
```

### Question 03

```

1  package Package
2
3  object q3 {
4  def main(args: Array[String]): Unit = {
5      println(formatNames( name = "Benny", toUpper))
6
7      println(formatNames( name = "NIroshan", str => {
8          val temptxt = str.charAt(1).toUpper
9          str.updated(1, temptxt)
10     }))
11
12     println(formatNames( name = "Saman", toLower))
13
14     println(formatNames( name = "Kumara", str => {
15         val temptxt = str.charAt(5).toUpper
16         str.updated(5, temptxt)
17     }))
18 }

```

```

19
20 def toUpper(txt: String): String = txt.toUpperCase()
21
22 def toLower(txt: String): String = txt.toLowerCase()
23
24 def formatNames(name: String, formatElements: String => String): String = {
25     formatElements(name)
26 }
27
28

```

q3 / main(args: Array[String])

Run: q3 x

```

"C:\Program Files\Java\jdk1.8.0_181\bin\java.exe" ...
BENNY
NIroshan
saman
KumarA
Process finished with exit code 0

```