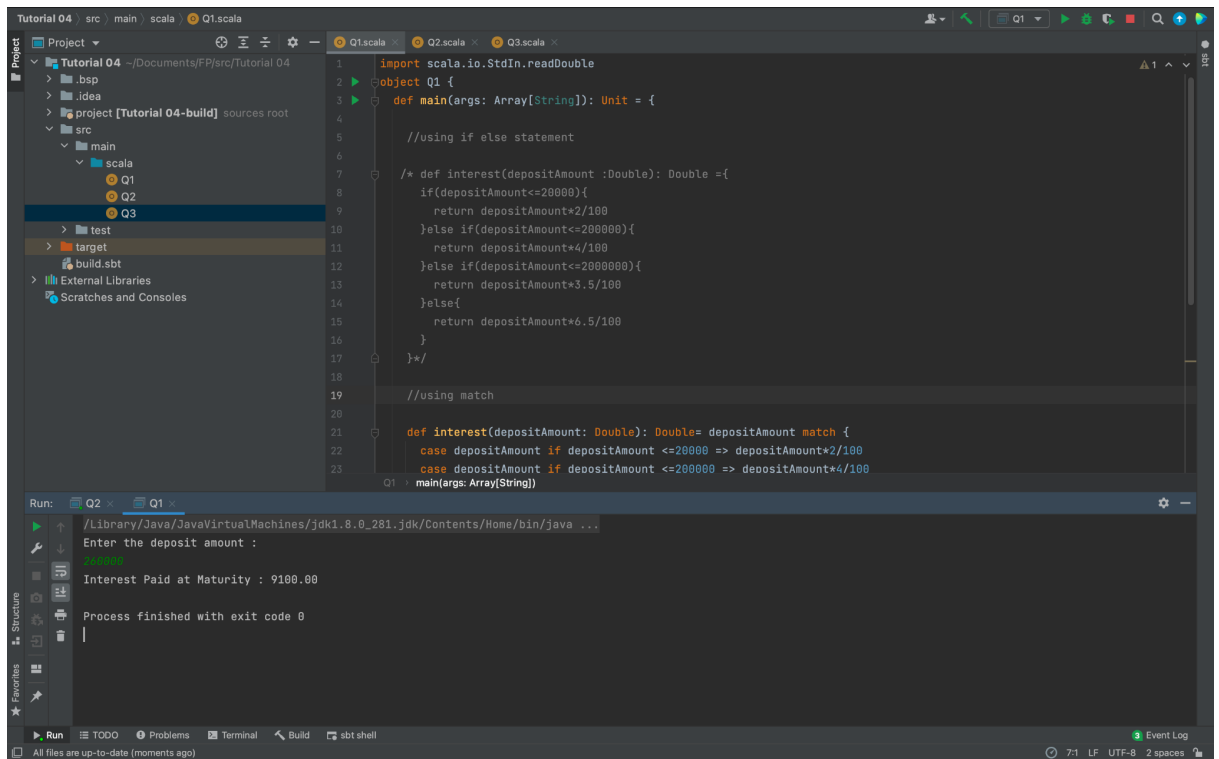


# SCS2204

## Functional Programming

### Tutorial 4

1)



```
1 import scala.io.StdIn.readLine
2 object Q1 {
3   def main(args: Array[String]): Unit = {
4
5     //using if else statement
6
7     /* def interest(depositAmount :Double): Double = {
8       if(depositAmount <= 20000){
9         return depositAmount*2/100
10      }else if(depositAmount <= 200000){
11        return depositAmount*4/100
12      }else if(depositAmount <= 2000000){
13        return depositAmount*3.5/100
14      }else{
15        return depositAmount*6.5/100
16      }
17    }*/
18
19    //using match
20
21    def interest(depositAmount: Double): Double = depositAmount match {
22      case depositAmount if depositAmount <= 20000 => depositAmount*2/100
23      case depositAmount if depositAmount <= 200000 => depositAmount*4/100
24    }
25  }
26}
```

Run: Q2 x Q1 x

```
/Library/Java/JavaVirtualMachines/jdk1.8.0_281.jdk/Contents/Home/bin/java ...
Enter the deposit amount :
9100.00
Interest Paid at Maturity : 9100.00
Process finished with exit code 0
```

2)

The screenshot shows an IDE with a project named 'Tutorial 04'. The file explorer on the left shows the project structure: 'src' > 'main' > 'scala' > 'Q2.scala'. The main editor displays the code for 'Q2.scala'.

```

1  import scala.io.StdIn.readInt
2  object Q2 {
3    def main(args: Array[String]): Unit = {
4
5      //using if else statement
6      /*
7      def patternMatching(number: Int): Unit = {
8        if (number <= 0) {
9          println("Given number is Negative/Zero number.")
10         } else if (number % 2 == 0) {
11           println("Given number is Even number")
12         } else {
13           println("Given number is Odd number")
14         }
15       }
16      */
17
18      //using match
19      def patternMatching(number: Int): Unit = number match {
20        case number if number <= 0 => println("Given number is Negative/Zero number.")
21        case number if number % 2 == 0 => println("Given number is Even number")
22        case number if number % 2 == 1 => println("Given number is Odd number")
23      }
24    }
25  }

```

The Run console at the bottom shows the execution of 'Q2'. It prompts 'Enter your number :', the user enters '2', and the output is 'Given number is Even number'. The process finished with exit code 0.

3)

The screenshot shows the same IDE with the file 'Q3.scala' selected. The code implements a function 'formatNames' that applies a formatting function to each name in a list.

```

1  object Q3 {
2    def main(args: Array[String]): Unit = {
3      def toUpper(upper: String): String = {
4        upper.toUpperCase()
5      }
6
7      def toLower(lower: String): String = {
8        lower.toLowerCase()
9      }
10
11     def formatNames(name: String)(formatFunc: String => String) : String = {
12       formatFunc(name)
13     }
14
15     var name = List("Benny", "Niroshan", "Saman", "Kumara")
16     println(formatNames(name.head)(toUpper))
17     println(name(1).head + formatNames(name(1).charAt(1).toString)(toUpper) + name(1).drop(2))
18     println(formatNames(name(2))(toLower))
19     println(name.last.init + formatNames(name.last.last.toString)(toUpper))
20   }
21 }

```

The Run console shows the execution of 'Q3'. It prints the following output:
   
BENNY
   
NIROSHAN
   
saman
   
Kumara
   
The process finished with exit code 0.