PPL Practical Sample Question and Solution

Q.1 Write a Scala program to check if a given number is positive, negative, or zero using if/else statements and also find the factorial of that number. [15M]

Pseudo Code:

```
import _____
object NumberCheckAndFactorial {
  def main(args: Array[String]): Unit = {
    // Step 1: Read the number from the user
    // Step 2: Check if the number is positive, negative, or zero
     // Step 3: Calculate the factorial of the number
        // Code to handle negative number (factorial not defined)
      // Loop to calculate factorial of positive number
      // Code to calculate factorial here
    }
    // Step 4: Print the factorial result
    // Code to print the factorial
  }
}
```

Solution:

```
import scala.io.StdIn._
object NumberCheckAndFactorial {
  def main(args: Array[String]): Unit = {
    // Step 1: Read the number from the user
    print("Enter a number: ")
    val number = readInt()
    // Step 2: Check if the number is positive, negative, or zero
    if (number > 0) {
      println("The number is positive.")
    } else if (number < 0) {
      println("The number is negative.")
    } else {
      println("The number is zero.")
    }
    // Step 3: Find the factorial if the number is positive or zero
    if (number >= 0) {
      var factorial = 1
```

```
      for (i <- 1 to number) {
        factorial *= i
      }
      // Step 4: Print the factorial
      println(s"The factorial of $number is $factorial.")
    } else {
      println("Factorial is not defined for negative numbers.")
    }
  }
}
```

Output:

Input 1:

Enter a number: 5

Output 1:

The number is positive.

The factorial of 5 is 120.

Input 2:

Enter a number: -3

Output 2:

The number is negative.

Factorial is not defined for negative numbers.

Input 3:

Enter a number: 0

Output 3:

The number is zero.

The factorial of 0 is 1.