LAB 4

Q1. Scala program to read a weekday number and print weekday name using match case.

Ans: **Code-**

```scala
import scala.io.StdIn
object WeekdayName {
  def main(args: Array[String]): Unit = {

    println("Enter a weekday number (0-6):")
    val weekdayNumber = scala.io.StdIn.readInt()

    weekdayNumber match {
      case 0 => println("Sunday")
      case 1 => println("Monday")
      case 2 => println("Tuesday")
      case 3 => println("Wednesday")
      case 4 => println("Thursday")
      case 5 => println("Friday")
      case 6 => println("Saturday")
      case _ => println("Invalid weekday number")
    }
  }
}
//vaswati//
```

OUTPUT:

STDIN

1

Output:

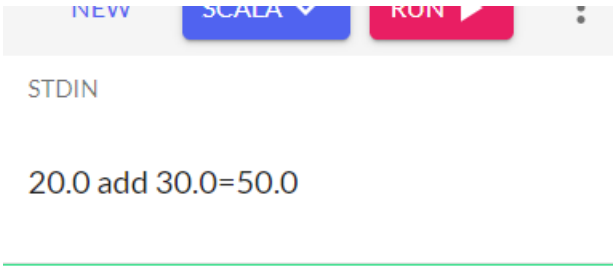
```
Enter a weekday number (0-6):
Monday
```

Q2. Scala program to implement an arithmetic calculator using higher order functions.

Ans: **Code-**

```scala
object Calculator {

  def operate(op: (Int, Int) => Int, a: Int, b: Int): Int = op(a, b)

  val add: (Int, Int) => Int = _ + _
  val subtract: (Int, Int) => Int = _ - _
  val multiply: (Int, Int) => Int = _ * _
  val divide: (Int, Int) => Int = _ / _

  def main(args: Array[String]): Unit = {
    val num1 = 10
    val num2 = 5


    println(s"Addition: ${operate(add, num1, num2)}")
    println(s"Subtraction: ${operate(subtract, num1, num2)}")
    println(s"Multiplication: ${operate(multiply, num1, num2)}")
    println(s"Division: ${operate(divide, num1, num2)}")
  }
}//vaswati//
```

OUTPUT:



Output:

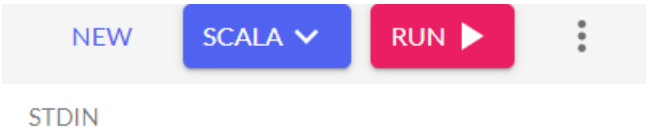
```
Addition: 15
Subtraction: 5
Multiplication: 50
Division: 2
```

Q4. Write a Scala program which defines a methods named "toUpper", "toLower", and "reverse", which accepts a String as input parameter and formats it. Define another method named "formatNames" which also has an input String called "name". This method however has a parameter group which accepts a functions with an input of type String and also outputs a String. This particular function will be used to apply the given format to the "name" input.

Ans: **Code-**

```scala
object String {

  def toUpper(str: String): String = str.toUpperCase
  def toLower(str: String): String = str.toLowerCase
  def reverse(str: String): String = str.reverse
  def customFormat(str: String): String = s"[$str]"

  def formatNames(name: String)(formatFunc: String => String): String = {
    formatFunc(name)
  }

  def main(args: Array[String]): Unit = {
    val name = "Vaswati"

    val upperCaseName = formatNames(name)(toUpper)
    val lowerCaseName = formatNames(name)(toLower)
    val reversedName = formatNames(name)(reverse)
    val customFormattedName = formatNames(name)(customFormat)

    println(s"Original Name: $name")
    println(s"Upper Case Name: $upperCaseName")
    println(s"Lower Case Name: $lowerCaseName")
    println(s"Reversed Name: $reversedName")
    println(s"Custom Formatted Name: $customFormattedName")
  }
}
```

OUTPUT:-



Output:

```
Original Name: Vaswati
Upper Case Name: VASWATI
Lower Case Name: vaswati
Reversed Name: itawsaV
Custom Formatted Name: [Vaswati]
```