

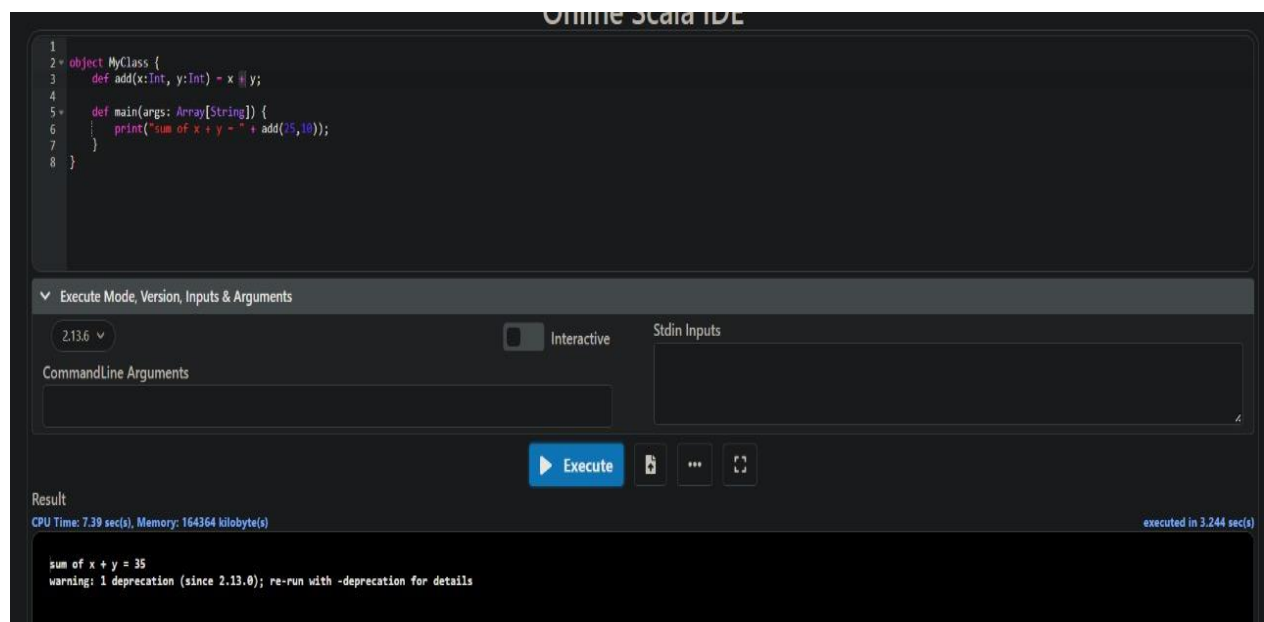
DATA SCIENCE
SCALA PROGRAMMING

1.Addition of two numbers

CODE

```
object MyClass {  
    def add(x:Int, y:Int) = x + y;  
  
    def main(args: Array[String]) {  
        print("sum of x + y = " + add(25,10));  
    }  
}
```

OUTPUT



The screenshot shows an online Scala IDE interface. The top section is a code editor with the following Scala code:

```
1  
2 object MyClass {  
3     def add(x:Int, y:Int) = x + y;  
4  
5     def main(args: Array[String]) {  
6         print("sum of x + y = " + add(25,10));  
7     }  
8 }
```

Below the code editor is a control bar with a dropdown menu set to "2.13.6", a toggle for "Interactive" mode, and a text input for "Stdin Inputs". Below this is a section for "CommandLine Arguments" with an empty text input. A blue "Execute" button is located to the right of the command line arguments. Below the control bar is a "Result" section. It displays the output "sum of x + y = 35" and a warning: "warning: 1 deprecation (since 2.13.0); re-run with -deprecation for details". The CPU time is shown as 7.39 sec(s) and memory as 164364 kilobyte(s). The execution time is shown as 3.244 sec(s).

2.Find the average of two numbers.

CODE

```
object MyClass {  
    def average(x:Int, y:Int,z:Int) = (x+y+z)/3;
```

```

def main(args: Array[String]) {
    print("Average = " + average(25,10,29));
}
}

```

OUTPUT

The screenshot shows an online Scala IDE interface. The code editor contains the following code:

```

1 object MyClass {
2   def average(x: Int, y: Int, z: Int) = (x+y+z)/3;
3
4   def main(args: Array[String]) {
5     print("Average = " + average(25,10,29));
6   }
7 }
8

```

Below the code editor, there is a section for 'Execute Mode, Version, Inputs & Arguments'. It shows '2.13.6' as the version, 'Interactive' mode is selected, and 'Stdin Inputs' is empty. There is a 'CommandLine Arguments' field and an 'Execute' button.

The 'Result' section shows the output: 'Average = 21'. It also includes performance metrics: 'CPU Time: 7.48 sec(s), Memory: 146352 kilobyte(s)' and a warning: 'Warning: 1 deprecation (since 2.13.0); re-run with -deprecation for details'. The execution time is noted as 'executed in 3.343 sec(s)'.

3. check two given integers, and return true if one of them is 30 or if their sum is 30.

CODE

```

object scala_basic {
    def test(x: Int, y: Int) : Boolean =
    {
        x == 30 || y == 30 || x + y == 30
    }

    def main(args: Array[String]): Unit = {
        println("Result: " + test(30, 0));
        println("Result: " + test(25, 5));
    }
}

```

```

println("Result: " + test(30, 20));

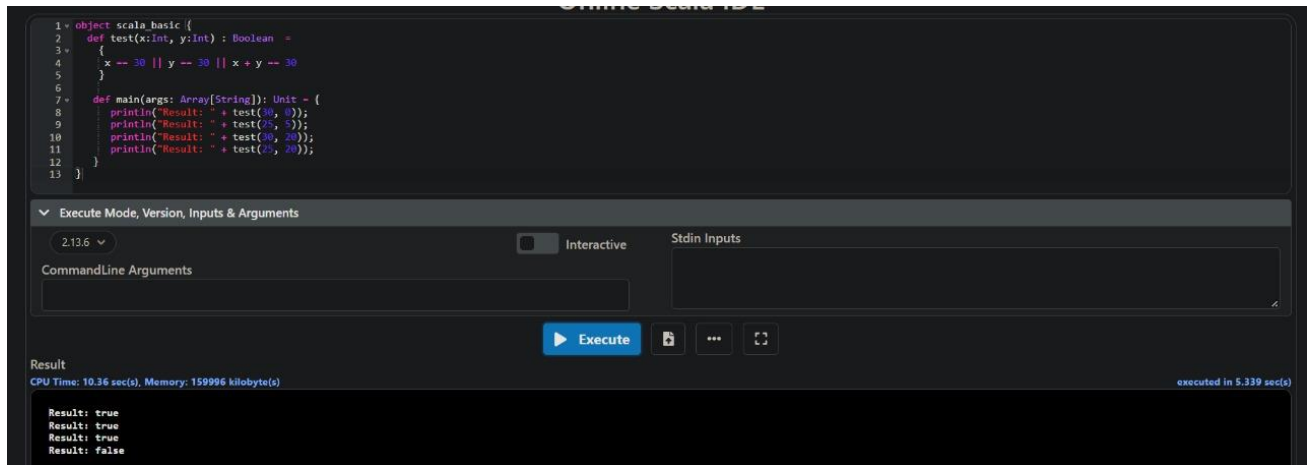
println("Result: " + test(25, 20));

}

}

```

OUTPUT



The screenshot shows a Scala IDE interface. The top panel displays the following code:

```

1 object scala_basic {
2   def test(x: Int, y: Int) : Boolean =
3   {
4     x == 30 || y == 30 || x + y == 30
5   }
6
7   def main(args: Array[String]): Unit = {
8     println("Result: " + test(30, 0));
9     println("Result: " + test(25, 5));
10    println("Result: " + test(30, 20));
11    println("Result: " + test(0, 20));
12  }
13 }

```

The bottom panel shows the execution results. The "Execute Mode, Version, Inputs & Arguments" section indicates the Scala version is 2.13.5 and the mode is "Interactive". The "Stdin Inputs" section is empty. The "CommandLine Arguments" section is also empty. The "Execute" button is visible. The "Result" section shows the following output:

```

CPU Time: 10.36 sec(s), Memory: 159996 kilobyte(s)
Result: true
Result: true
Result: true
Result: false

```

The execution time is 10.36 seconds and the memory usage is 159996 kilobytes. The results are: true, true, true, false.

4.get the absolute difference between n and 51. If n is greater than 51 return triple the absolute difference

CODE

```

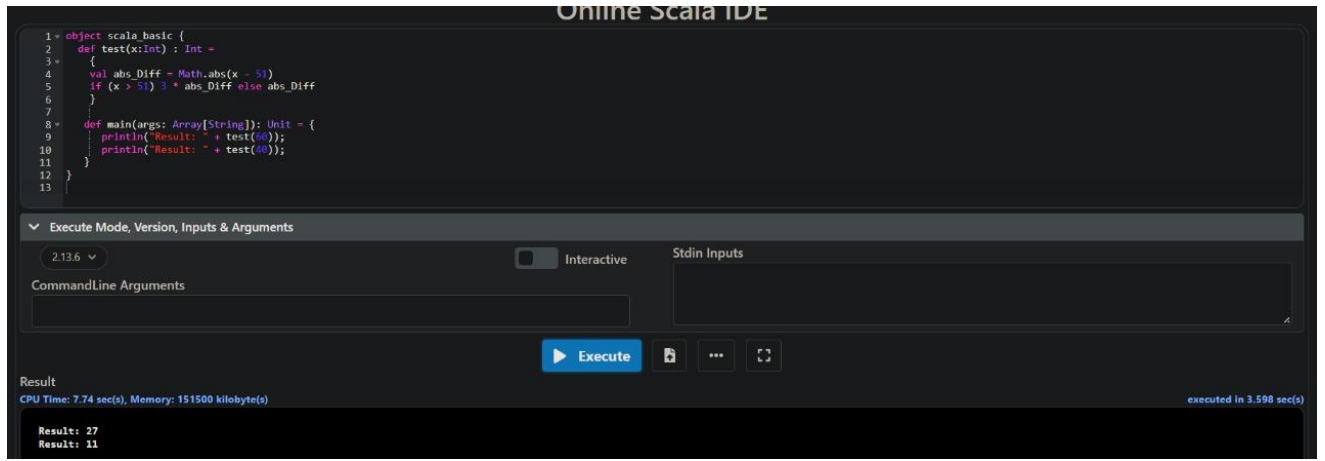
object scala_basic {
  def test(x: Int) : Int =
  {
    val abs_Diff = Math.abs(x - 51)
    if (x > 51) 3 * abs_Diff else abs_Diff
  }

  def main(args: Array[String]): Unit = {
    println("Result: " + test(60));
  }
}

```

```
println("Result: " + test(40));  
  
}  
  
}
```

OUTPUT



The screenshot shows an online Scala IDE interface. At the top, the title "Online Scala IDE" is visible. Below it, a code editor displays the following Scala code:

```
1 = object scala.basic {  
2   def test(x: Int) : Int =  
3     {  
4       val abs_Diff = Math.abs(x - 5)  
5       if (x > 5) 1 + abs_Diff else abs_Diff  
6     }  
7  
8   def main(args: Array[String]): Unit = {  
9     println("Result: " + test(40));  
10    println("Result: " + test(40));  
11  }  
12 }  
13 }
```

Below the code editor, there is a section titled "Execute Mode, Version, Inputs & Arguments". It includes a dropdown menu showing "2.13.6", a checkbox for "Interactive" (which is unchecked), and a text area for "Stdin Inputs". There is also a text area for "CommandLine Arguments". A blue "Execute" button is present, along with icons for saving, refreshing, and full-screen.

Below the execution controls, the "Result" section shows the following information:

CPU Time: 7.74 sec(s), Memory: 151500 kilobyte(s) executed in 3.598 sec(s)

Result: 27
Result: 11