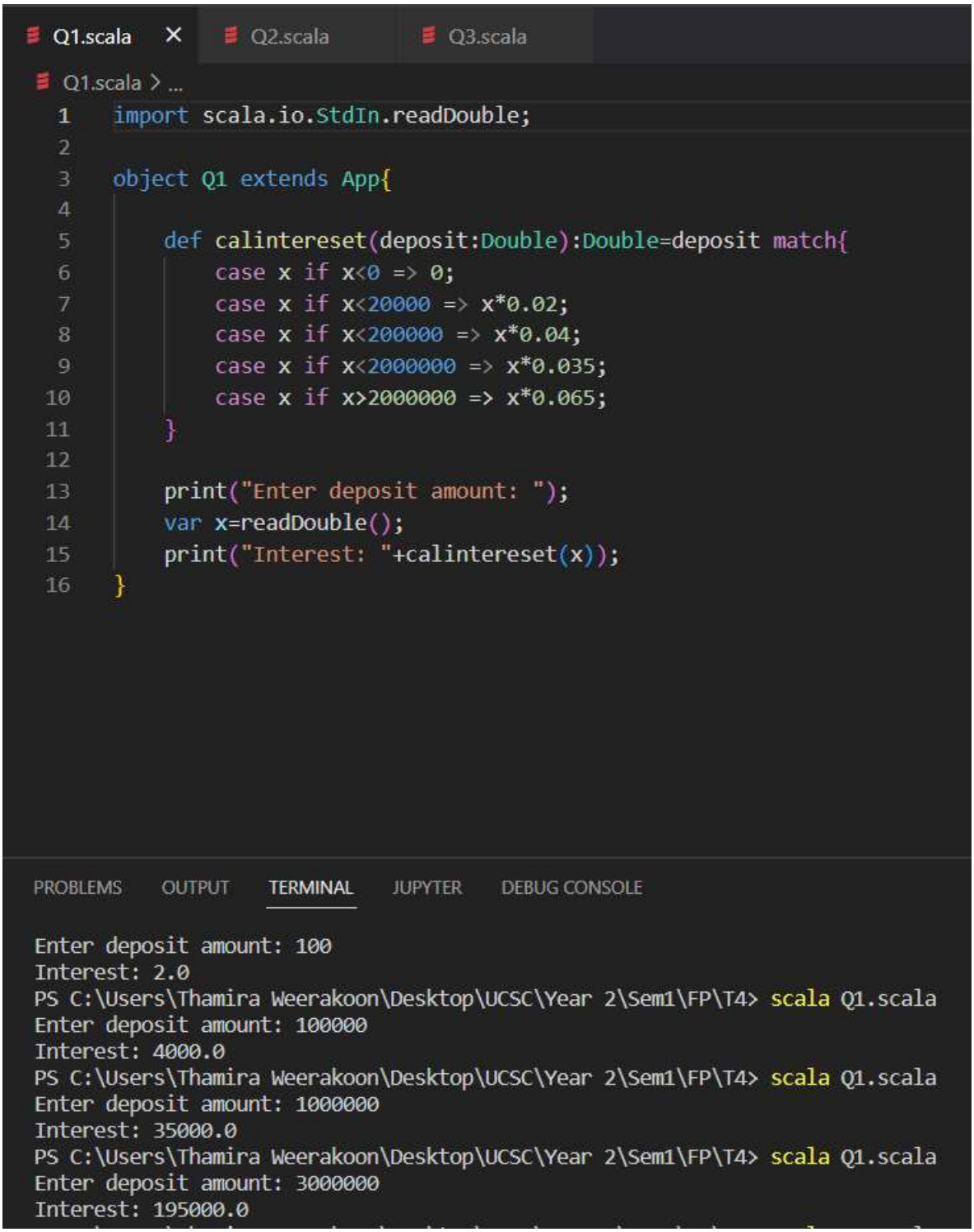
Github link: https://github.com/Thamiweerakoon/Functional-Programming.git

1.



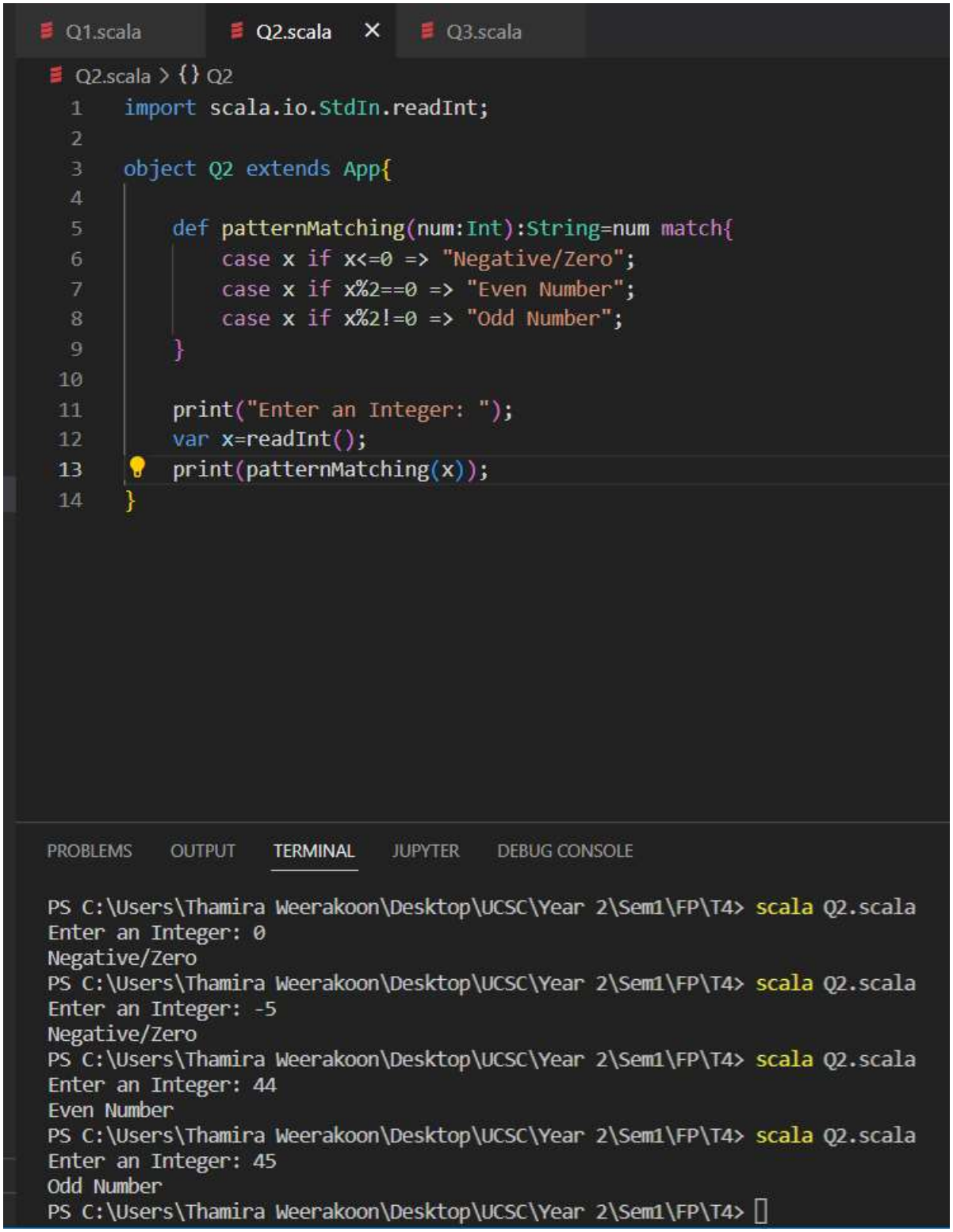
Q1.scala | Q2.scala | Q3.scala

Q1.scala > ...

```scala
import scala.io.StdIn.readDouble;

object Q1 extends App{

    def calintereset(deposit:Double):Double=deposit match{
        case x if x<0 => 0;
        case x if x<20000 => x*0.02;
        case x if x<200000 => x*0.04;
        case x if x<2000000 => x*0.035;
        case x if x>2000000 => x*0.065;
    }

    print("Enter deposit amount: ");
    var x=readDouble();
    print("Interest: "+calintereset(x));
}
```

PROBLEMS OUTPUT TERMINAL JUPYTER DEBUG CONSOLE

```
Enter deposit amount: 100
Interest: 2.0
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q1.scala
Enter deposit amount: 100000
Interest: 4000.0
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q1.scala
Enter deposit amount: 1000000
Interest: 35000.0
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q1.scala
Enter deposit amount: 3000000
Interest: 195000.0
```


Q1.scala
Q2.scala
Q3.scala
Q2.scala > {} Q2
1 import scala.io.StdIn.readInt;
2
3 object Q2 extends App{
4
5 def patternMatching(num:Int):String=num match{
6 case x if x<=0 => "Negative/Zero";
7 case x if x%2==0 => "Even Number";
8 case x if x%2!=0 => "Odd Number";
9 }
10
11 print("Enter an Integer: ");
12 var x=readInt();
13 print(patternMatching(x));
14 }
PROBLEMS
OUTPUT
TERMINAL
JUPYTER
DEBUG CONSOLE
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q2.scala
Enter an Integer: 0
Negative/Zero
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q2.scala
Enter an Integer: -5
Negative/Zero
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q2.scala
Enter an Integer: 44
Even Number
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q2.scala
Enter an Integer: 45
Odd Number
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4>

2.

Q3.scala

Q3.scala > {} Q3 > formatNames

```scala
object Q3 extends App{

    def toUpper(str:String):String=str.toUpperCase();
    def toLower(str:String):String=str.toLowerCase();
    def formatNames(name:String)(id:Int*)(function:String=>String):String={
        if(id.isEmpty){
            return function(name);
        }else{
            var text="";
            var j=0;
            while(j<name.length()){
                if(id.contains(j)){
                    text=text+function(name.charAt(j).toString);
                }else{
                    text=text+name.charAt(j).toString;
                }
                j+=1;
            }
            return text;
        }

    };

    println(formatNames("Benny")()(toUpper));
    println(formatNames("Niroshan")(0)(toUpper));
    println(formatNames("Saman")()(toLower));
    println(formatNames("Kumara")(5)(toUpper));
}
```

PROBLEMS OUTPUT TERMINAL JUPYTER DEBUG CONSOLE

```
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scalac Q3.scala
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4> scala Q3.scala
BENNY
Niroshan
saman
KumarA
PS C:\Users\Thamira Weerakoon\Desktop\UCSC\Year 2\Sem1\FP\T4>
```

3.