Session 15:
SCALA BASICS 2
Assignment 1

- Prachi Mohite

Note: We will be using IDEA IntelliJ Scala Projects with scala worksheet to complete this assignment

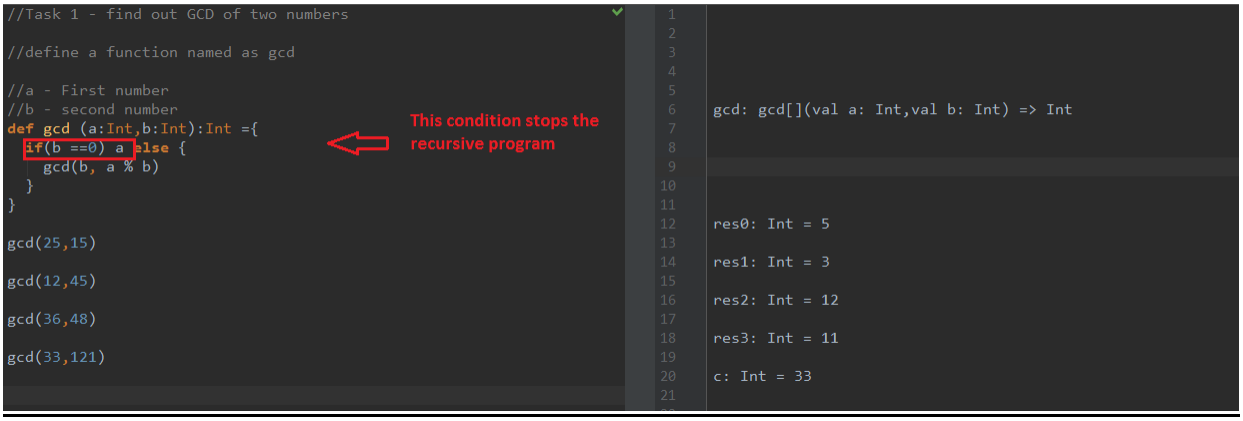
Task 1

Create a Scala application to find the GCD of two numbers

Solution Approach

1. **Create a program to get the GCD of two number by writing custom math Define a function named as gcd**

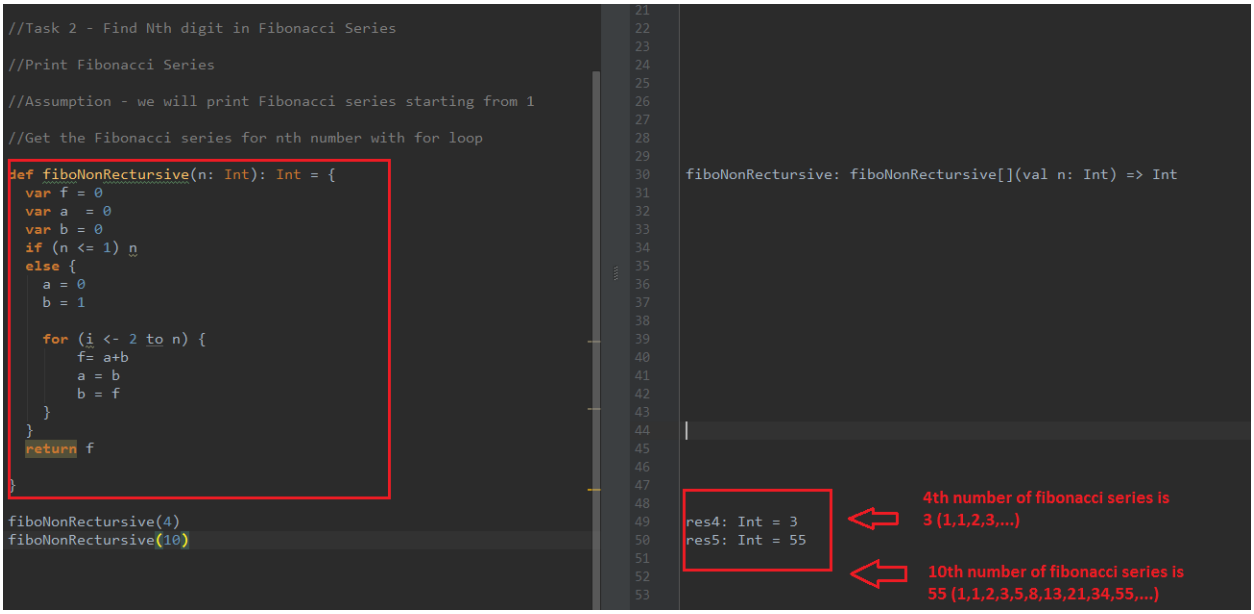
- Here the function 'gcd' is recursive function
    - recursive function is a function which calls itself. That's why it's important to have some condition for stopping. Of course, that is if you don't want to create an infinite loop.
    - In this example the condition is when reminder is ZERO stop calling recursive function



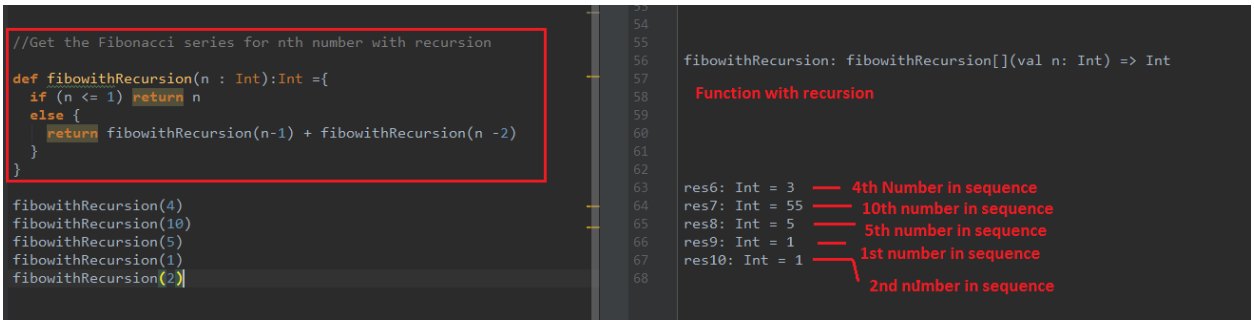
Task 2

Fibonacci series (starting from 1) written in order without any spaces in between, thus producing a sequence of digits. Write a Scala application to find the Nth digit in the sequence.

2.1 Write the function using standard for loop



2.2 Write the function using recursion



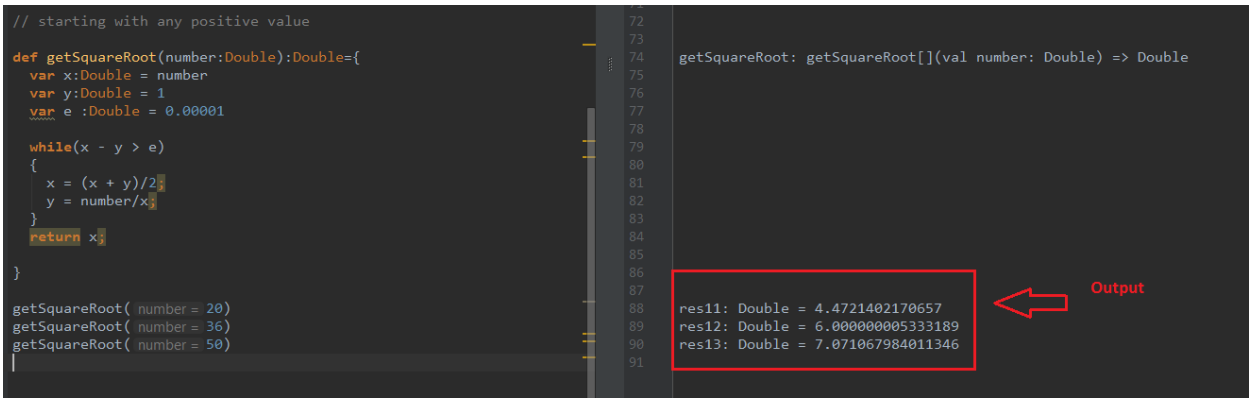
Task 3

Find square root of number using Babylonian method.

1. Start with an arbitrary positive start value x (the closer to the root, the better).
2.Initialize y = 1.
3. Do following until desired approximation is achieved.
a) Get the next approximation for root using average of x and y
b) Set y = n/x

Here we have used while to loop to get to the next approximation for root using average of x and y

While loop will continue till the difference is greater than the accuracy level we have defined.



Below is the recursive implementation of BabyLonian method of the finding square root