

Assignment 13.1

Problem Statement :-

Create a Scala application to find the GCD of two numbers.

Solution:-

CD (Greatest Common Divisor) or HCF (Highest Common Factor) of two numbers is the largest number that divides both of them.

For example:-

$$36 = 2 \times 2 \times 3 \times 3$$

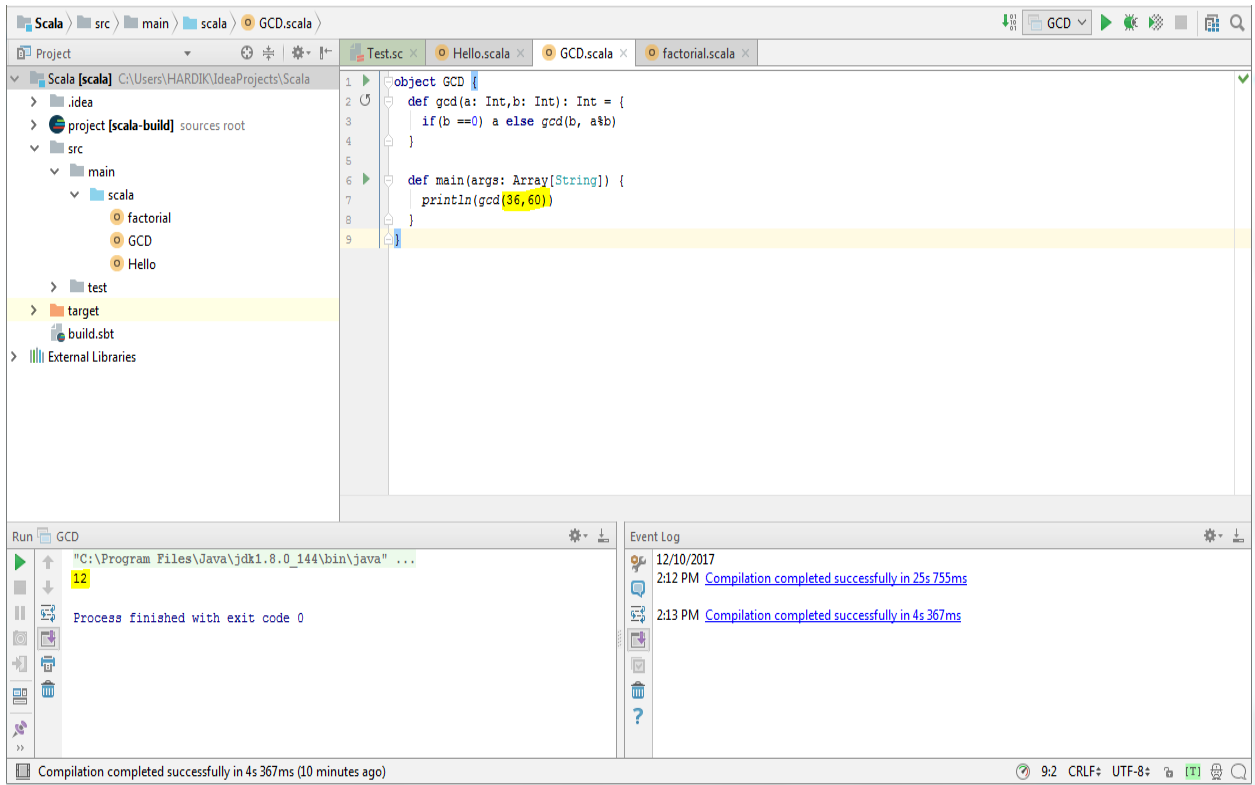
$$60 = 2 \times 2 \times 3 \times 5$$

GCD = Multiplication of common factors

$$= 2 \times 2 \times 3 = 12$$

Thus, Scala Application to find GCD of two numbers is as follows:-

```
object GCD {  
  def gcd(a: Int, b: Int): Int = {  
    if(b == 0) a else gcd(b, a % b)  
  }  
  def main(args: Array[String]) {  
    println(gcd(36, 60))  
  }  
}
```



Than now try with other set of numbers as 20 and 28

$$20 = 4 \times 5$$

$$28 = 4 \times 7$$

$$\text{GCD} = 4$$

