ASSIGNMENT 16

1:CODE:

```
package calculate

object cal {
  def main(args: Array[String]) {
    println("enter the numbers")
    val a1=scala.io.StdIn.readInt()
    val b1=scala.io.StdIn.readInt()
    val c1=scala.io.StdIn.readInt()
    val d1=scala.io.StdIn.readInt()
    if(b1==1 && d1==1)
    {
      var k2=whole(a1,c1)// calling whole method if numbers are whole number
    }
    else
    {
      var k=rat(a1,b1,c1,d1) )// calling rat method if numbers are rational number
    }

  }
  def rat( a:Int, b:Int, c:Int, d:Int ) : Int = {


    println("The numbers are:"+ a +"/"+b+" and "+c+"/"+d)
    var sum=((a*d)+(c*b))
    var sub=((a*d)-(c*b))
    val s2=b*d;
    println("sum:")
    println(sum+"/"+s2)
    println("subtract:")
    println(sub+"/"+s2)
    println("divide:")
    println((a*d)+"/"+(b*c))
    println("multiplication:")
    println((a*c)+"/"+(b*d))

    var gcd=0
    var lcm=0
    if(a>=c)
    {
      for(k<-1 to c)
      {
        if( a % k==0 && c %k==0)
        gcd=k
      }

    }
```

```
  if(a<c)
  {
  for(k<-1 to a)
  {
      if( a % k==0 && c %k==0)
      gcd=k
  }
  }
  if(b>=d)
  {
    lcm=b;
    var k1=0;
    while(k1==0)
    {
      if((lcm % b==0) && (lcm % d==0))
      {
        k1=1;
      }
      lcm=lcm+1;
    }
  }
  if(d>b)
  {
    lcm=d;
    var k=0;
    while(k==0)
    {
      if((lcm % b==0) && (lcm % d==0))
      {
        k=1;
      }
      lcm=lcm+1;
    }
  }

  println("gcd="+ gcd +"/"+ lcm)
  return 1


  }
def whole( a:Int, c:Int ) : Int = {
   println("The numbers are:"+ a +" and "+c)
  println("sum:")
  println(a+c)
  println("subtract:")
  println(a-c)
  println("divide:")
  println(a/c)
  println("multiplication:")
  println(a*c)

  var gcd=0

  if(a>=c)
  {
```

```
      for(k<-1 to c)
      {
        if( a % k==0 && c%k==0)
        gcd=k
      }

    }
    if(a<c)
    {
    for(k<-1 to a)
    {
        if( a % k==0 && c %k==0)
        gcd=k
    }
    }
    println("gcd="+gcd)
    return 1
  }
}
```

2.When input are rational numbers:

```
enter the numbers
3
4
2
5
The numbers are:3/4 and 2/5
sum:
23/20
subtract:
7/20
divide:
15/8
multiplication:
6/20
gcd=1/21
```

3.When input are whole numbers:

```
<terminated> cal$ [Scala Application] C:\Program Files\Java\jre1.8.0_191\bin\javaw.exe (28-Jan-2019, 10:56:57 PM)
enter the numbers
15
1
5
1
The numbers are:15 and 5
sum:
20
subtract:
10
divide:
3
multiplication:
75
gcd=5
```