

1 solutions

```
1 public class IntRecursor {
2
3     public static double product(int x, int y) {
4         if(y == 0)
5             return 0;
6         else if ( y > 0 )
7             return x + IntRecursor.product(x,y - 1);
8         else
9             return -x + IntRecursor.product(x,y + 1 );
10    }
11
12    public static double power(int x, int y) {
13        if(y == 0)
14            return 1;
15        else if(y > 0)
16            return x * IntRecursor.power(x, y-1);
17        else
18            return (1.0/x) * IntRecursor.power(x,y+1);
19    }
20
21
22    public static int gcd(int x, int y) {
23        if (y == 0)
24            return x;
25
26        return IntRecursor.gcd(y, x % y);
27    }
28
29    public static int fibonacci(int x) {
30        if(x == 0 || x == 1)
31            return x;
32        return IntRecursor.fibonacci(x-1) + IntRecursor.fibonacci(x-2);
33    }
34
35    public static void main(String [] args) {
36        int x = 5;
37        int y = -4;
38        int z = 231;
39        System.out.println(x + " * " + y + " = " + IntRecursor.product(x,y) );
40        System.out.println("2 raised to power -4 is " + IntRecursor.power(2,-4));
41        System.out.println("GCD of 24 and 18 is" + IntRecursor.gcd(24,18));
42        System.out.println("Fibonnaci(8) = " + IntRecursor.fibonacci(8));
43    }
44 }
```