

Recursive GCD Demo

```
public class Euclid {
    public static int gcd(int p, int q) {
        if (q == 0) return p;
        else return gcd(q, p % q);
    }

    public static void main(String[] args) {
        int p = Integer.parseInt(args[0]);
        int q = Integer.parseInt(args[1]);
        System.out.println(gcd(p, q));
    }
}
```

p = 1272, q = 216

environment

gcd(1272, 216)

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static int gcd(int p, int q) {  
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environment

$$1272 = 216 \times 5 + 192$$

p = 216, q = 192

environment

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static int gcd(int p, int q) {  
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gcd(216, 192)

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static int gcd(int p, int q) {  
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```

p = 192, q = 24

environment

gcd(192, 24)

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environment

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static int gcd(int p, int q) {  
    if (q == 0) return p;  
    else return gcd(q, p % q);  
}
```

p = 24, q = 0

environment

gcd(24, 0)

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static int gcd(int p, int q) {  
    if (q == 0) return p;  
    else return gcd(q, p % q);  
}
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p = 1272, q = 216

environment

gcd(1272, 216)

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24

```
% java Euclid 1272 216  
24
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