

3.write a program to find the GCD of two numbers using recursive factorization

PROGRAM:-

```
def gcd(a, b):
```

```
    if b == 0:
```

```
        return a
```

```
    return gcd(b, a % b)
```

```
num1 = 48
```

```
num2 = 18
```

```
print(f"The GCD of {num1} and {num2} is {gcd(num1, num2)}")
```

```
num1 = 48
```

```
num2 = 18
```

```
print(f"The GCD of {num1} and {num2} is {gcd(num1, num2)}")
```

output:-

```
The GCD of 48 and 18 is 6
```

```
=== Code Execution Successful ===|
```

Time complexity:- $O(\log(\min(a,b)))$