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

PROGRAM:

```
def gcd(a,b):
    if b==0:
        return a
    else:
        return gcd(b,a%b)
n1=int(input("Enter the number 1:"))
n2=int(input("Enter the number 2:"))
result=gcd(n1,n2)
print("The GCD of ",n1," and ",n2," is:",result)
```

INPUT:

```
Enter the number 1:64
Enter the number 2:80
```

OUTPUT:

The GCD of 64 and 80 is: 16

TIME COMPLEXITY:

Time complexity of the above code is $f(n)=O(\log(\min(a,b))$