

```
#include <stdio.h>
```

```
long long int extended_euclidean_algorithm
```

```
(  
    long long int a,  
    long long int b,  
    long long int *x,  
    long long int *y  
) {
```

```
    if (b == 0) {  
        *x = 1;  
        *y = 0;  
        return a;  
    }
```

```
    long long int x1, y1;  
    long long int gcd = extended_euclidean_algorithm(b, a % b, &x1, &y1);
```

```
    *x = y1;  
    *y = x1 - (a / b) * y1;
```

```
    return gcd;  
}
```

```
int main() {  
    long long int a, b, x, y;
```

```
    printf("Enter two numbers: ");  
    scanf("%lld %lld", &a, &b);
```

```
    long long int gcd = extended_euclidean_algorithm(a, b, &x, &y);
```

```
    printf("GCD of %lld and %lld is: %lld\n", a, b, gcd);  
    printf("Coefficients x and y are: x = %lld, y = %lld\n", x, y);
```

```
    return 0;  
}
```