Program: 3 **Implementation Of GCD Using Euclidean Algorithm**

Date:

AIM

ALGORITHM

CODE

```
#include <iostream>
using namespace std;

int gcd(int a, int b) {

	int step = 1;

	while (b != 0) {
		cout << "Step " << step << ": a = " << a << ", b = " << b << endl;

		// Calculate a % b and store it in a temporary variable
		int temp = b;
		b = a % b;
		a = temp;
		step++;
	}

	return a;
}

int main() {

	int num1, num2;
	cout << "Enter two integers to compute gcd: ";
	cin >> num1 >> num2;
	cout << endl;

	int result = gcd(num1, num2);
	cout << endl;
	cout << "GCD of " << num1 << " and " << num2 << " is " << result << endl;

	return 0;
}
```

OUTPUT

```
Enter two integers to compute gcd: 10 12

Step 1: a = 10, b = 12
Step 2: a = 12, b = 10
Step 3: a = 10, b = 2

GCD of 10 and 12 is 2
```

RESULT

Thus, the program to compute GCD of two numbers is executed successfully.