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Euclidean Algorithm: code in c++

```
#include <iostream>
```

```
using namespace std;
```

```
//int gcd(int a, int b)
```

```
//{
```

```
// if (b==0) return a;
```

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

```
//}
```

```
int gcd (int a, int b)
```

```
{
```

```
int r1=a,r2=b;
```

```
while (r2>0)
```

```
{
```

```
int q=r1/r2;
```

```
int temp=r1-q*r2;
```

```
r1=r2;
```

```
cout<<"r1="<<r1<<"\tr2="<<r2<<"\tr="<<temp<<"\n";
```

```
r2=temp;
```

```
}
```

```
return r1;
```

```
}
```

```
int main () {
```

Output

The screenshot shows a C++ IDE with the following code in `Euclid's algo.cpp`:

```

1 //Euclid's algo
2
3 #include <iostream>
4 using namespace std;
5
6 //int gcd(int r1, int r2)
7 //{
8 //    if (r2 == 0)
9 //        return r1;
10 //    else
11 //        return gcd(r2, r1 % r2);
12 //}
13
14 int gcd(int r1, int r2)
15 {
16     while (r2 != 0)
17     {
18         int t = r1;
19         r1 = r2;
20         r2 = t % r2;
21     }
22     return r1;
23 }
24
25 int main()
26 {
27     int r1 = 2740, r2 = 1760;
28     cout << "GCD of " << r1 << " and " << r2 << " is " << gcd(r1, r2) << endl;
29     return 0;
30 }

```

The output window shows the execution of the program:

```

Enter two integers: 2740 1760
r1=1760 r2=1760 r=980
r1=980 r2=980 r=780
r1=780 r2=780 r=200
r1=200 r2=200 r=180
r1=180 r2=180 r=20
r1=20 r2=20 r=0
gcd(2740, 1760) = 20
-----
Process exited after 7.484 seconds with return value 0
Press any key to continue . . .

```

The status bar at the bottom indicates: Line: 8, Col: 23, Sel: 0, Lines: 36, Length: 614, Insert, Done parsing in 0.015 seconds.