

```

1  #include <stdio.h>
2  #include <stdlib.h>
3  int iterative(int a, int b)
4  {
5      int x,y;
6      while (b > 0)
7      {
8          x=a/b;
9          y=a-x*b;
10         a=b;
11         b=y;
12     }
13     return a;
14 }
15 int recursive(int a, int b)
16 {
17     if (b == 0)
18         return a;
19     int p=a/b;
20     int q=a-p*b;
21     return recursive(b,q);
22 }
23 int main()
24 {
25     int a,b,choice;
26     printf("Enter the two Positive numbers : \n");
27     scanf("%d %d",&a,&b);
28     for(;;)
29     {
30         printf("\n1.Iterative_Gcd\n2.Recursive_Gcd\n3.Exit\n");
31         printf("Enter your choice:\n");
32         scanf("%d",&choice);
33         switch(choice)
34         {
35             case 1:printf("Gcd of the two numbers is : %d\n",iterative(a,b));
36                     break;
37             case 2:printf("Gcd of the two numbers is : %d\n",recursive(a,b));
38                     break;

```

```

8  x=a/b;
9  y=a-x*b;
10 a=b;
11 b=y;
12 }
13 return a;
14 }
15 int recursive(int a, int b)
16 {
17     if (b == 0)
18         return a;
19     int p=a/b;
20     int q=a-p*b;
21     return recursive(b,q);
22 }
23 int main()
24 {
25     int a,b,choice;
26     printf("Enter the two Positive numbers : \n");
27     scanf("%d %d",&a,&b);
28     for(;;)
29     {
30         printf("\n1.Iterative_Gcd\n2.Recursive_Gcd\n3.Exit\n");
31         printf("Enter your choice:\n");
32         scanf("%d",&choice);
33         switch(choice)
34         {
35             case 1:printf("Gcd of the two numbers is : %d\n",iterative(a,b));
36                     break;
37             case 2:printf("Gcd of the two numbers is : %d\n",recursive(a,b));
38                     break;
39             default:exit(0);
40         }
41     }
42     return 0;
43 }
44

```

C:\WINDOWS\SYSTEM32\cmd.exe

Enter the two Positive numbers :

80 30

1.Iterative_Gcd

2.Recursive_Gcd

3.Exit

Enter your choice:

1

Gcd of the two numbers is : 10

1.Iterative_Gcd

2.Recursive_Gcd

3.Exit

Enter your choice:

2

Gcd of the two numbers is : 10

1.Iterative_Gcd

2.Recursive_Gcd

3.Exit

Enter your choice:

3

(program exited with code: 0)

Press any key to continue . . .