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

```
x=a/b;
9
     y=a-x*b;
     a=b;
10
11
     b=y;
12
13
     return a;
14
     int recursive (int a, int b)
15
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;
     printf("Enter the two Positive numbers : \n");
26
     scanf ("%d %d", &a, &b);
27
28
     for(;;)
29
      printf("\n1.Iterative Gcd\n2.Recursive Gcd\n3.Exit\n");
30
31
      printf("Enter your choice:\n");
      scanf ("%d", &choice);
32
33
      switch (choice)
34
    白 {
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:
Gcd of the two numbers is : 10
1.Iterative_Gcd
2.Recursive_Gcd
3.Exit
Enter your choice:
Gcd of the two numbers is : 10
1.Iterative_Gcd
2.Recursive_Gcd
3.Exit
Enter your choice:
(program exited with code: 0)
Press any key to continue . . .
```