|  |
| --- |
| Q.23 Find GCD of two numbers using for loop and if statement |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  | public class Main |
|  |  | { |
|  |  | public static void main(String[] args) |
|  |  | { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.printf("Enter first number"); |
|  |  | int x = sc.nextInt(); |
|  |  | System.out.printf("Enter Second number"); |
|  |  | int y = sc.nextInt(); |
|  |  | int gcd = 1; |
|  |  |  |
|  |  | for(int i = 1; i <= x && i <= y; i++) |
|  |  | { |
|  |  |  |
|  |  | if(x%i==0 && y%i==0) |
|  |  |  |
|  |  | gcd = i; |
|  |  | } |
|  |  |  |
|  |  | System.out.printf("GCD of %d and %d is: %d", x, y, gcd); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.24 Find GCD of two numbers using while loop and if else statement |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  | public class Main |
|  |  | { |
|  |  | public static void main(String[] args) |
|  |  | { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.printf("Enter first number"); |
|  |  | int n1 = sc.nextInt(); |
|  |  | System.out.printf("Enter Second number"); |
|  |  | int n2 = sc.nextInt(); |
|  |  | while(n1!=n2) |
|  |  | { |
|  |  | if(n1>n2) |
|  |  | n1=n1-n2; |
|  |  | else |
|  |  | n2=n2-n1; |
|  |  | } |
|  |  | System.out.printf("GCD of n1 and n2 is: " +n2); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.25 GCD for both positive and negative numbers |
|  |  |  |
|  |  | public static void main(String[] args) { |
|  |  |  |
|  |  | Scanner scanner = new Scanner(System.in); // Create a Scanner object |
|  |  | System.out.print("Enter a Number 1:"); |
|  |  | int n1 = scanner.nextInt(); |
|  |  |  |
|  |  | System.out.print("Enter a Number 2:"); |
|  |  | int n2 = scanner.nextInt(); |
|  |  |  |
|  |  | // Always set to positive |
|  |  | n1 = ( n1 > 0) ? n1 : -n1; |
|  |  | n2 = ( n2 > 0) ? n2 : -n2; |
|  |  | while(n1 != n2) |
|  |  | { |
|  |  | if(n1 > n2) |
|  |  | n1 -= n2; |
|  |  | else |
|  |  | n2 -= n1; |
|  |  | } |
|  |  | System.out.println("G.C.D = " + n1); |
|  |  | } |
|  |  |  |
|  |  | Q.26 LCM using while Loop and if Statement |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  | public class Main |
|  |  | { |
|  |  | public static void main(String[] args) |
|  |  | { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.println("Enter first number"); |
|  |  | int n1 = sc.nextInt(); |
|  |  | System.out.println("Enter Second number"); |
|  |  | int n2 = sc.nextInt(); |
|  |  | int lcm; |
|  |  |  |
|  |  | lcm = (n1 > n2) ? n1 : n2; |
|  |  |  |
|  |  |  |
|  |  | while(true) { |
|  |  | if( lcm % n1 == 0 && lcm % n2 == 0 ) { |
|  |  | System.out.printf("The LCM of %d and %d is %d.", n1, n2, lcm); |
|  |  | break; |
|  |  | } |
|  |  | ++lcm; |
|  |  | } |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.27 Calculate LCM using GCD |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  | public class Main |
|  |  | { |
|  |  | public static void main(String[] args) |
|  |  | { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.println("Enter first number"); |
|  |  | int n1 = sc.nextInt(); |
|  |  | System.out.println("Enter Second number"); |
|  |  | int n2 = sc.nextInt(); |
|  |  | int gcd=1; |
|  |  |  |
|  |  | for(int i = 1; i <= n1 && i <= n2; ++i) { |
|  |  |  |
|  |  | if(n1 % i == 0 && n2 % i == 0) |
|  |  | gcd = i; |
|  |  | } |
|  |  |  |
|  |  | int lcm = (n1 \* n2) / gcd; |
|  |  | System.out.printf("The LCM of %d and %d is %d.", n1, n2, lcm); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.28 Display uppercase alphabet using for loop |
|  |  |  |
|  |  | class Main { |
|  |  | public static void main(String[] args) { |
|  |  |  |
|  |  | char c; |
|  |  |  |
|  |  | for(c = 'A'; c <= 'Z'; ++c) |
|  |  | System.out.print(c + " "); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.29 Display lowercase alphabet using for loop |
|  |  |  |
|  |  | class Main { |
|  |  | public static void main(String[] args) { |
|  |  |  |
|  |  | char c; |
|  |  |  |
|  |  | for(c = 'a'; c <= 'z'; ++c) |
|  |  | System.out.print(c + " "); |
|  |  | } |
|  |  |  |
|  |  | Q.30 Count Number of Digits in an Integer using while loop |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  |  |
|  |  | class Main { |
|  |  | public static void main(String[] args) { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.println("Enter Number"); |
|  |  | int num =sc.nextInt(); |
|  |  | int count = 0; |
|  |  |  |
|  |  | while (num != 0) { |
|  |  | num /= 10; |
|  |  | ++count; |
|  |  | } |
|  |  |  |
|  |  | System.out.println("Number of digits: " + count); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.31 Count Number of Digits in an Integer using for loop |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  |  |
|  |  | class Main { |
|  |  | public static void main(String[] args) { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.println("Enter Number"); |
|  |  | int num =sc.nextInt(); |
|  |  | int count = 0; |
|  |  |  |
|  |  | for (; num != 0; num /= 10, ++count) { |
|  |  | } |
|  |  |  |
|  |  | System.out.println("Number of digits: " + count); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.32 Reverse a Number using a while loop in Java |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  |  |
|  |  | class Main { |
|  |  | public static void main(String[] args) { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.println("Enter Number"); |
|  |  | int num =sc.nextInt(); |
|  |  | int reversed=0; |
|  |  | System.out.println("Original Number: " + num); |
|  |  |  |
|  |  |  |
|  |  | while(num != 0) { |
|  |  |  |
|  |  | int digit = num % 10; |
|  |  | reversed = reversed \* 10 + digit; |
|  |  |  |
|  |  |  |
|  |  | num /= 10; |
|  |  | } |
|  |  |  |
|  |  | System.out.println("Reversed Number: " + reversed); |
|  |  | } |
|  |  | } |
|  |  |  |
|  |  | Q.33 Reverse a number using a for loop in Java |
|  |  |  |
|  |  | import java.util.Scanner; |
|  |  |  |
|  |  | class Main { |
|  |  | public static void main(String[] args) { |
|  |  | Scanner sc=new Scanner(System.in); |
|  |  | System.out.println("Enter Number"); |
|  |  | int num =sc.nextInt(); |
|  |  | int reversed=0; |
|  |  | System.out.println("Original Number: " + num); |
|  |  | for(;num != 0; num /= 10) { |
|  |  | int digit = num % 10; |
|  |  | reversed = reversed \* 10 + digit; |
|  |  | } |
|  |  |  |
|  |  | System.out.println("Reversed Number: " + reversed); |
|  |  | } |
|  |  | } |