1. ***Swap 2 numbers***

***public******static******void*** *swap2Numbers(****int****[] numbers) {*

*numbers= new int[]{10,20};*

***int*** *temp = 0;*

*temp = numbers[0];*

*numbers[0] = numbers[1];*

*numbers[1] = temp;*

*System.****out****.println(Arrays.toString(numbers));*

*}*

1. ***Swap 2 numbers without Temp(without 3rd variable)***

*public static void swap2NumbersWithoutTemp(int[] numbers) {*

*numbers=new int[] {210,65};*

*int a = numbers[0];*

*int b = numbers[1];*

*a = a + b;*

*b = a - b;*

*a = a - b;*

*System.out.println("a : " + a + " b : " + b);*

*}*

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1. ***Swap numbers***

*public static void swap5Numbers(int[] numbers) {*

*int n = numbers.length;*

*int start = 0;*

*int temp = 0;*

*int end = numbers.length - 1;*

*while (start < end) {*

*temp = numbers[start];*

*numbers[start] = numbers[end];*

*numbers[end] = temp;*

*start++;*

*end--;*

*}*

*System.out.println(Arrays.toString(numbers));*

*for (int i = 0; i < n; i++) {*

*System.out.print(numbers[i] + " ");*

*}*

*}*

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1. *Factorial of a number (Plain + Range)*

*public static void factorialNumber() {*

*Scanner sc = new Scanner(System.in);*

*System.out.println("Enter the number : ");*

*int num = sc.nextInt();*

*System.out.print("Factorial of " + num + " is : ");*

*for (int i = num - 1; i > 0; i--) {*

*num = num \* i;*

*}*

*System.out.print(num);*

*}*

*public static void factorialNumberRange() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter the range you want: ");*

*int num=sc.nextInt();*

*for(int i=1;i<=num;i++) {*

*int product=1;*

*int num1=i;*

*for(int j=num1;j>=1;j--) {*

*product=product\*j;*

*}*

*System.out.println("Factorial of "+num1+" : "+product);*

*}*

*}*

1. *Fibonacci Series:-*

*public static void fibonacciSeries() {*

*// it is sum of previous two numbers*

*Scanner sc = new Scanner(System.in);*

*System.out.println("Please enter how many numbers you want : ");*

*int num = sc.nextInt();*

*int num1 = 0;*

*int num2 = 1;*

*int num3;*

*for (int i = 0; i <= num; i++) {*

*System.out.print(num1 + " ");*

*num3 = num1 + num2; // Swapping*

*num1 = num2;*

*num2 = num3;*

*}*

*}*

1. *Armstrong number(Finding count+Function+Range)*

*public static void arsmstrongNumberWithcount() {*

*//sum of nth power of all digits of number 153=1^3+5^3+3^3=153*

*Scanner sc = new Scanner(System.in);*

*System.out.println("Enter number to check:- ");*

*int num=sc.nextInt();*

*int num1=num;*

*int power=0,rem,sum=0;*

*while(num1>0) {*

*num1=num1/10;*

*power++;*

*}*

*num1=num;*

*while(num1>0) {*

*rem=num1%10;*

*// Manual exponentiation*

*// for (int i = 1; i <= count; i++) {*

*// power = power \* rem;*

*// }*

*sum=sum+(int)Math.pow(rem, power);*

*num1=num1/10;*

*}*

*if(sum==num)*

*System.out.println(num+" is Armstrong number");*

*else*

*System.out.println(num+" is not Armstrong number");*

*}*

*public static void armstrongNumberRange() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter range you want to check upto: ");*

*int range=sc.nextInt();*

*for(int i=1;i<=range;i++) {*

*int num=i;*

*int power=0,rem,sum=0;*

*while(num>0) {*

*num=num/10;*

*power++;*

*}*

*num=i;*

*while(num>0) {*

*rem=num%10;*

*// Manual exponentiation*

*// for (int i = 1; i <= count; i++) {*

*// power = power \* rem;*

*// }*

*sum=sum+(int)Math.pow(rem, power);*

*num=num/10;*

*}*

*if(sum==i)*

*System.out.println(i+" is Armstrong number");*

*}*

*}*

1. *Pallindrome number (Plain + Range) :-*

*public static void pallindromeNum() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter number you want to check: ");*

*int num=sc.nextInt();*

*int temp=num;*

*int rev=0;*

*int rem;*

*while(temp>0) {*

*rem=temp%10;*

*rev=(rev\*10)+rem;*

*temp=temp/10;*

*}*

*if (rev == num)*

*System.out.println(num + " is Pallindrome number");*

*else*

*System.out.println(num + " is not Pallindrome number");*

*}*

***public******static******void*** *pallindromeNumRange() {*

*Scanner sc=****new*** *Scanner(System.****in****);*

*System.****out****.println("Enter range till you want to check: ");*

***int*** *range =sc.nextInt();*

***for****(****int*** *i=11;i<=range;i++) {*

***int*** *num=i;*

***int*** *sum=0,rem;*

***while****(num>0) {*

*rem=num%10;*

*sum=(sum\*10)+rem;*

*num=num/10;*

*}*

***if****(sum==i)*

*System.****out****.println(i+" is Pallindrome number");*

*}*

*}*

1. *Reverse number( Plain + Range):-*

*public static void reverseNumber() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter number you want to reverse: ");*

*int num=sc.nextInt();*

*int rem,sum=0;*

*while(num>0) {*

*rem=num%10;*

*sum=(sum\*10)+rem;*

*num=num/10;*

*}*

*System.out.println("Reverse number is :"+sum);*

*}*

*public static void reverseNumberRange() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter the range till you want to reverse: ");*

*int range=sc.nextInt();*

*for(int i=1;i<=range;i++) {*

*int num=i;*

*int sum=0,rem;*

*while(num>0) {*

*rem=num%10;*

*sum=(sum\*10)+rem;*

*num=num/10;*

*}*

*System.out.println("Reverse of "+i+" is :"+sum);*

*}*

*}*

1. *Prime number (Plain + Range): -*

*public static void primeNumber() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter number you want to check: ");*

*int num=sc.nextInt();*

*boolean flag=true;*

*for(int i=2;i<=num-1;i++) {*

*if(num%i==0)*

*flag=false;*

*}*

*if(flag)*

*System.out.println(num+" is Prime Number");*

*else*

*System.out.println(num+" is not Prime number");*

*}*

*public static void primeNumberRange() {*

*Scanner sc=new Scanner(System.in);*

*System.out.println("Enter the range till you want to check: ");*

*int range=sc.nextInt();*

*for(int i=2;i<=range;i++) {*

*int num=i;*

*boolean flag=true;*

*for(int j=2;j<=num-1;j++) {*

*if(num%j==0) {*

*flag=false;*

*}*

*}*

*if(flag) {*

*System.out.println(num+" is Prime number");*

*}*

*}*

*}*

*--------------------------------------------------------------------------------------------------------------------------------------*