Swapping of two digits

1> logic one

```
package com.dhruv.javaprograms.swappingtwonums;

public class SwappingTwoNumsLogicOne {

	public static void main(String[] args) {

	int a = 10;
	int b = 20;

	System.out.println("Before swapping values are " + a + " " + b);

	int temp = a;
	  a = b;
	  b = temp;

    System.out.println("After swapping values are " + a + " " + b);

	}

}
```

2> logic two

```
package com.dhruv.javaprograms.swappingtwonums;

public class SwappingTwoNumsLogicTwo {

	public static void main(String[] args) {

		int a = 10;
		int b = 20;

		System.out.println("Before swapping values are " + a + " " + b);

		a = a+b;
		b = a-b;
		a = a-b;


		System.out.println("After swapping values are " + a + " " + b);
	}

}
```

3> logic three

```java
package com.dhruv.javaprograms.swappingtwonums;

public class SwappingTwoNumsLogicThree {

	public static void main(String[] args) {

		int a = 10;
		int b = 20;

		System.out.println("Before swapping values are " + a + " " + b);

		a = a*b;
		b = a/b;
		a = a/b;


		System.out.println("After swapping values are " + a + " " + b);
	}

}
```

4> logic four

```java
package com.dhruv.javaprograms.swappingtwonums;

public class SwappingTwoNumsLogicFour {

	public static void main(String[] args) {

		int a = 10;
		int b = 20;

		System.out.println("Before swapping values are " + a + " " + b);

		a = a^b; // bitwise XOR
		b = a^b;
		a = a^b;

		System.out.println("After swapping values are " + a + " " + b);
	}

}
```

5> logic five

```java
package com.dhruv.javaprograms.swappingtwonums;

public class SwappingTwoNumsLogicFive {

	public static void main(String[] args) {

		int a = 10;
		int b = 20;

		System.out.println("Before swapping values are " + a + " " + b);

		b = a + b - (a = b);

		System.out.println("After swapping values are " + a + " " + b);

	}

}
```

Reverse a Number

1> logic one

```java
package com.dhruv.javaprograms.reverseanum;

import java.util.Scanner;

public class ReverseANumLogicOne {

	public static void main(String[] args) {

	Scanner scn = new Scanner(System.in);

	System.out.println("Enter a Number: ");

	int num = scn.nextInt();
	int rev = 0;

	while(num!=0) {
		rev = rev * 10 + num % 10;
		num = num / 10;
	}
	System.out.println("Reverse Number is:" + rev);

	}

}
```

2> logic two

```java
package com.dhruv.javaprograms.reverseanum;

import java.util.Scanner;

public class ReverseANumLogicTwo {

	public static void main(String[] args) {

		Scanner scn = new Scanner(System.in);

		System.out.println("Enter a Number: ");

		int num = scn.nextInt();

		StringBuffer sb = new StringBuffer(String.valueOf(num));
		StringBuffer rev = sb.reverse();

		System.out.println("Reverse Number is:" + rev);

	}

}
```

3> logic three

```java
package com.dhruv.javaprograms.reverseanum;

import java.util.Scanner;

public class ReverseANumLogicThree {

	public static void main(String[] args) {

	  Scanner scn = new Scanner(System.in);

		System.out.println("Enter a Number: ");

		int num = scn.nextInt();

		StringBuilder sbl = new StringBuilder();
		sbl.append(num);
		StringBuilder rev = sbl.reverse();

		System.out.println("Reverse Number is:" + rev);

	}

}
```

Reverse A String

1> logic one

```
package com.dhruv.javaprograms.reverseastring;

public class ReverseaStringLogicOne {

	public static void main(String[] args) {

	String str = "ABCD";
	String rev = " ";
	int len = str.length();

	for(int i = len - 1; i >= 0; i--) {
		rev = rev + str.charAt(i);
	}

	System.out.println("Reverse String is :" + rev);
	}

}
```

2> logic two

```
package com.dhruv.javaprograms.reverseastring;

public class ReverseaStringLogicTwo {

	public static void main(String[] args) {

		String str = "ABCD";
		String rev = " ";

		char a[] = str.toCharArray();

		int len = a.length;

		for (int i = len - 1; i >= 0; i--) {
			rev = rev + a[i];
		}

		System.out.println("Reverse String is :" + rev);
	}

}
```

3> logic three

```
package com.dhruv.javaprograms.reverseastring;

public class ReverseaStringLogicThree {

	public static void main(String[] args) {

		String str = "ABCD";
		StringBuffer sb = new StringBuffer(str);

		System.out.println("Reverse String is : " + sb.reverse());

	}

}
```

Palindrome Number

```
package com.dhruv.javaprograms.palindromenum;

import java.util.Scanner;

public class PalindromeNumber {

	public static void main(String[] args) {

	Scanner scn = new Scanner(System.in);

    System.out.println("Enter a num:");

    int num = scn.nextInt();

    int orgNum = num;
    int rev = 0 ;

    while(num!=0) {
       rev = rev * 10 + num % 10;
       num = num / 10;
    }

    if(orgNum == rev) {
       System.out.println(orgNum + " is a Palindrome Number ");
    }

    else {
       System.out.println(orgNum + " is not a Palindrome Number ");
    }

       }

}
```

Palindrome String

```
package com.dhruv.javaprograms.palindromestring;

import java.util.Scanner;

public class PalindromeString {

	public static void main(String[] args) {

		Scanner scn = new Scanner(System.in);

	    System.out.println("Enter a String:");

	    String str = scn.next();
	    String orgStr = str;
	    String rev = "";

	    int len = str.length();

	    for(int i = len - 1; i >= 0; i--) {
	       rev = rev + str.charAt(i);
	    }

	    if(orgStr.equals(rev)) {
	       System.out.println(orgStr + " is a palindrome string");
	}
	    else {
	       System.out.println(orgStr + " is not a palindrome string");
	    }
}
}
```

Count number of digits in a number

```
package com.dhruv.javaprograms.countnumofdigits;

public class CountNumOfDigits {

	public static void main(String[] args) {

		int num = 123456;
		int count = 0;
		while(num > 0) {
			num = num / 10;
			count++;
		}

		System.out.println("Num of Digits: " + count);
	}

}
```

Count number of even and odd digits in number

```
package com.dhruv.javaprograms.countevenandodd;

public class CountEvenAndOddDigits {

	public static void main(String[] args) {

		int num = 12345;
		int evenNumCount = 0;
		int oddNumCount = 0;

		while(num > 0) {
			int rem = num % 10;

			if(rem % 2 == 0) {
				evenNumCount++;
			} else {
				oddNumCount++;
			}

			num = num / 10;
		}

		System.out.println("No of Even Numbers: " + evenNumCount);

		System.out.println("No of Odd Numbers: " + oddNumCount);
	}

}
```

Count sum of digits in a number

```
package com.dhruv.javaprograms.countsumofdigits;

public class CountSumOfDigits {

	public static void main(String[] args) {

		int num = 123456;
		int sum = 0;
		while (num > 0) {
			sum = sum + num % 10;
			num = num / 10;
		}
		System.out.println("Sum of digits in a number: " + sum);
	}

}
```

Find the largest of three number

1> logic one

```java
package com.dhruv.javaprograms.largestofthreenum;

import java.util.Scanner;

public class LargestOfThreeLogicOne {

	public static void main(String[] args) {

		Scanner scn = new Scanner(System.in);

		System.out.println("Enter first number: ");
		int a = scn.nextInt();

		System.out.println("Enter second number: ");
		int b = scn.nextInt();

		System.out.println("Enter third number: ");
		int c = scn.nextInt();

		if( a > b && a > c) {
			System.out.println(a + " is the largest number ");
		} else if (b > c) {
			System.out.println(b + " is the largest number ");
		} else {
			System.out.println(c + " is the largest number ");
		}

	}
```

2> logic two

```java
package com.dhruv.javaprograms.largestofthreenum;

import java.util.Scanner;

public class LargestOfThreeLogicThree {

	public static void main(String[] args) {

	  Scanner scn = new Scanner(System.in);

		System.out.println("Enter first number: ");
		int a = scn.nextInt();

		System.out.println("Enter second number: ");
		int b = scn.nextInt();

		System.out.println("Enter third number: ");
		int c = scn.nextInt();

		int largest = c > (a > b ? a : b) ? c : (a > b ? a : b);
		System.out.println(largest + " is largest Number");
	}

}
```

3> logic three

```
package com.dhruv.javaprograms.largestofthreenum;

import java.util.Scanner;

public class LargestOfThreeLogicTwo {

	public static void main(String[] args) {

	  Scanner scn = new Scanner(System.in);

		System.out.println("Enter first number: ");
		int a = scn.nextInt();

		System.out.println("Enter second number: ");
		int b = scn.nextInt();

		System.out.println("Enter third number: ");
		int c = scn.nextInt();

		int largestOne = a > b ? a : b;  // largest of a & b
		int largestTwo = c > largestOne ? c : largestOne; // largest of c &
largestOne

		System.out.println(largestTwo + " is largest Number");
	}

}
```

Fibonacci Number

```
package com.dhruv.javaprograms.fibonaccinum;

import java.util.Scanner;

public class FibonacciNumber {

	public static void main(String[] args) {

	  Scanner scn = new Scanner(System.in);

		System.out.println("Enter the number: ");
		int n = scn.nextInt();
		int a = 0;
		int b = 1;

		for(int i = 1; i <= n; i++) {

			System.out.print(a + " ");
			int c = a + b;
			a = b;
			b = c;

		}

	}

}
```

Given Number is prime or not

```java
package com.dhruv.javaprograms.primeornot;

import java.util.Scanner;

public class PrimeOrNotWithInputs {

	public static void main(String[] args) {

		Scanner scn = new Scanner(System.in);

		System.out.println("Enter the test number and give numbers: ");
		int t = scn.nextInt();

		for(int test = 0; test < t; test++) {
			int n = scn.nextInt();
			int count = 0;

			for(int div = 2; div * div <= n; div++) {
				if (n % div == 0) {
					count++;
					break;
				}
			}
		if(count == 0) {
			System.out.println("Prime Number");
		} else {
			System.out.println("Not A Prime Number");
		}


		}
	}

}
```

Print prime Number till N

```
package com.dhruv.javaprograms.primeornot;

import java.util.Scanner;

public class AllPrimeNumTillN {

	public static void main(String[] args) {

		Scanner scn = new Scanner(System.in);

		System.out.println("Enter lowest number: ");
		int low = scn.nextInt();

		System.out.println("Enter higest number: ");
		int high = scn.nextInt();

		for(int n = low; n <= high; n++) {
			int count = 0;
			for(int div =2; div * div <= n; div++) {
				if(n % div == 0) {
					count++;
					break;
				}
			}
			if(count == 0) {
				System.out.print(n + " ");
		}
		}
	}

}
```

Generate random numbers

1>

```
package com.dhruv.javaprograms.randomnum;

import java.util.*;

public class RandomNum {

	public static void main(String[] args) {

		Random rand = new Random();

		int randInt = rand.nextInt(10);

		System.out.println(" Random Number between 1 to 10: " + randInt);

	}
}
```

2>

```java
package com.dhruv.javaprograms.randomnum;

import java.util.Random;

public class RandomNumDouble {

	public static void main(String[] args) {

		Random rand = new Random();
		double randDbl = rand.nextDouble(); // return values from 0 to 1
		System.out.println(randDbl);
	}

}
```

3>

```java
package com.dhruv.javaprograms.randomnum;

public class RandomNumLogicOne {

	public static void main(String[] args) {
		System.out.println(Math.random()); // returns value between 0 to 1
	}

}
```

Factorial of Number

1> Ascending Order

```java
package com.dhruv.javaprograms.factorialnum;

public class FactorialOfNumAscendingOrder {

	public static void main(String[] args) {

		int num = 10;
		long factorial = 1;

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

		System.out.println(" Factorial of a num is: " + factorial);
	}

}
```

2> descending order

```
package com.dhruv.javaprograms.factorialnum;

public class FactorialOfNumDecendingOrder {

	public static void main(String[] args) {

		int num = 10;
		long factorial = 1;

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

		System.out.println(" Factorial of a num is: " + factorial);
	}

}
```

Sum of Elements in Array

1> logic one

```
package com.dhruv.javaprograms.sumofelementsinarray;

public class SumofElementsinArray {

	public static void main(String[] args) {

		int a[] = {5,2,7,9,6};  // n-5
		int sum = 0;

		for(int i = 0; i <= a.length - 1; i++) {
			sum = sum + a[i];
		}
		System.out.println("Sum of Array elements: " + sum);
	}

}
```

2> logic two enhanced for loop

```
package com.dhruv.javaprograms.sumofelementsinarray;

public class SumofElementsinArrayLogicOne {

	public static void main(String[] args) {

		int a[] = {5,2,7,9,6};  // n-5
		int sum = 0;

		for(int value:a) {
			sum = sum + value;
		}
		System.out.println("Sum of Array elements: " + sum);
	}

}
```

Print even & odd elements from an array

1> logic one

```
package com.dhruv.javaprograms.evenandoddnumsfromarray;

public class EvenAndOddNumsFromArray {

	public static void main(String[] args) {

		int a[] = {1,5,2,7,9,6};
		System.out.println(" Even numbers in array");

		for(int i=0; i < a.length; i++) {
			if(a[i] % 2 == 0)
				System.out.println(a[i]);
		}

		System.out.println("-------------------------------------------");
		System.out.println(" Odd numbers in array");

		for(int i=0; i < a.length; i++) {
			if(a[i] % 2 != 0)
				System.out.println(a[i]);
		}

	}

}
```

2> logic two

```
package com.dhruv.javaprograms.evenandoddnumsfromarray;

public class EvenAndOddNumsFromArrayLogicOne {

	public static void main(String[] args) {

		int a[] = {1,5,2,7,9,6};
		System.out.println(" Even numbers in array");

		for(int value : a) {
			if(value % 2 == 0)
				System.out.println(value);
		}
		System.out.println("-------------------------------------------");
		System.out.println(" Odd numbers in array");

		for(int value : a) {
			if(value % 2 != 0)
				System.out.println(value);
		}

	}

}
```

Check the equality of two array

1> logic one

```java
package com.dhruv.javaprograms.equalityoftwoarray;

import java.util.Arrays;

public class EqualityOfTwoArray {

	public static void main(String[] args) {

		int a1[] = {1,2,3,4,5};
		int a2[] = {1,2,3,4,5};

		boolean status = Arrays.equals(a1, a2);

		if(status == true) {
			System.out.println("Arrays are equal");
		} else {
			System.out.println("Arrays are not equal");
		}
	}

}
```

2> logic two

```java
package com.dhruv.javaprograms.equalityoftwoarray;

public class EqualityOfTwoArrayLogicOne {

	public static void main(String[] args) {

		int a1[] = {1,2,3,4,5};
		int a2[] = {1,2,3,6,5};

		boolean status =true;

		if(a1.length == a2.length) {
			for(int i=0; i < a1.length; i++) {
				if(a1[i] != a2[i]) {
					status = false;
				}
			}
		}

		else {
			status = false;
		}

		if(status == true) {
			System.out.println("Arrays are equal");
		}
		else {
			System.out.println("Arrays are not equal");
		}

	}

}
```

Missing number in array

```java
package com.dhruv.javaprograms.missingnuminarray;

public class MissingNumInArray {

	public static void main(String[] args) {
		int a[]= {1,2,4,5};

		int sumOne = 0;
		for(int i = 0; i < a.length; i++ ) {
			sumOne = sumOne + a[i];
		}

		System.out.println("Sum of elements in arrays: " + sumOne);

		int sumTwo = 0;
		for(int i = 0; i <= 5; i++ ) {
			sumTwo = sumTwo + i;
		}

		System.out.println("Sum of range of elements in array:" + sumTwo);
		System.out.println("Missing number is : " + (sumTwo - sumOne));
	}

}
```

Max and Min value in Array

```java
package com.dhruv.javaprograms.maxandminelementsinarray;

public class MaxAndMinElementsInArray {

	public static void main(String[] args) {

		int a[] = {50, 100, 40, 20, 60};
		int max = a[0];

		for(int i = 1; i <a.length; i++) {
			if( a[i] > max) {
				max = a[i];
			}
		}

		System.out.println("Maximum element in array is : " + max);

		int min = a[0];

		for(int i = 1; i <a.length; i++) {
				if( a[i] < min) {
					min = a[i];
				}
			}

		System.out.println("Minimum element in array is : " + min);
	}

}
```

Duplicate elements in array

1> logic one

```
package com.dhruv.javaprograms.duplicateelementsinarray;

public class DuplicateElementInArray {

	public static void main(String[] args) {
		String arr[] = { "java", "c", "c++", "python", "java"};
		boolean flag = false;

		for(int i = 0; i < arr.length; i++) {

			for(int j = i+1; j < arr.length; j++) {
			 if(arr[i] == arr[j]) {
			 System.out.println("Found duplicate element :" + arr[i]);
			 flag = true;
				}
			}
		}
		if(flag == false) {
			System.out.println("Duplicate element not found");
		}
	}

}
```

2> logic two

```
package com.dhruv.javaprograms.duplicateelementsinarray;

import java.util.HashSet;

public class DuplicateElementInArrayLogicOne {

	public static void main(String[] args) {

		String arr[] = { "java", "c", "c++", "python", "java"};
		HashSet<String> langs = new HashSet();

		boolean flag = false;
		for(String l : arr) {
			if(langs.add(l) == false) {
				System.out.println("Found Duplicate element: " + l);
				flag = true;
			}
		}

		if(flag == false) {
			System.out.println("Not found Duplicates");
		}
	}

}
```

Searching an element in Array

1> Linear search method

```java
package com.dhruv.javaprograms.searchingelementsinarray;

public class LinearSearchMethod {

	public static void main(String[] args) {

		int a[] = {10,20,40,50,30};
		int search = 50;
		boolean flag = false;

		for(int i = 0; i < a.length; i++) {
			System.out.println(a[i]);
			if(search == a[i]) {
				System.out.println("Elements found at: " + i);
				flag = true;
				break;
			}
		}

		if(flag == false) {
			System.out.println("Element not found");
		}
	}

}
```

2> binary search method in built

```java
package com.dhruv.javaprograms.searchingelementsinarray;

import java.util.Arrays;

public class BinarySearchMethodLogicOne {

	public static void main(String[] args) {

		int a[] = { 1,2,3,4,5,6,7,8,9,10};
		System.out.println(Arrays.binarySearch(a, 10));
	}

}
```

3> binary search logic

```java
package com.dhruv.javaprograms.searchingelementsinarray;

public class BinarySearchMethod {

	public static void main(String[] args) {

		int a[] = { 1,2,3,4,5,6,7,8,9,10}; // should be in sorted order

		boolean flag = false;
		int key = 2;
		int low = 0;
		int high = a.length - 1;


		while(low <= high) {
			int m = (low + high)/2;
			if(a[m] == key) {
				System.out.println("Elements Found");
				flag = true;
				break;
			}
			if(a[m] < key) {
				low = m + 1;
			}
			if(a[m] > key) {
				high = m - 1;
			}
		}



		if(flag == false) {
			System.out.println("Elements not found");
		}


	}

}
```

Sort elements in Array

1> built in method

```
package com.dhruv.javaprograms.sortelementsinarray;

import java.util.Arrays;

public class BuiltInSortMethod {

	public static void main(String[] args) {

		int a[] = { 4,2,1,5,3};

		System.out.println("Arrays before sorting: " + Arrays.toString(a));

		Arrays.parallelSort(a);

		System.out.println("Arrays after sorting: " + Arrays.toString(a));
	}

}
```

2> built in method

```
package com.dhruv.javaprograms.sortelementsinarray;

import java.util.Arrays;

public class BuiltInSortMethodLogicOne {

	public static void main(String[] args) {

int a[] = { 4,2,1,5,3};

		System.out.println("Arrays before sorting: " + Arrays.toString(a));

		Arrays.sort(a);

		System.out.println("Arrays after sorting: " + Arrays.toString(a));
	}

}
```

3> bubble sort

```
package com.dhruv.javaprograms.sortelementsinarray;

import java.util.*;

public class SortElementsInArray {

	public static void main(String[] args) {

		int a[] = { 4,2,1,5,3};

		System.out.println("Arrays before sorting: " + Arrays.toString(a));

		int n = a.length;

		// Bubble Sort method

		for(int i = 0; i < n-1; i++) {
			for (int j = 0 ; j < n-1; j++) {

				if(a[j] > a[j+1]) {
					int temp = a[j];
					a[j] = a[j+1];
					a[j+1] = temp;
				}
			}
		}

		System.out.println("Arrays after sorting: " + Arrays.toString(a));
	}

}
```

Remove junk or special characters in String

```
package com.dhruv.javaprograms.removejunkfiles;

public class RemoveJunkFiles {

	public static void main(String[] args) {

		String s = "?><<>@!#$% latin st 0123";
		s = s.replaceAll("[^a-z A-Z 0-9]", " ");
		System.out.println(s);
	}

}
```

Remove White Spaces in string

```
package com.dhruv.javaprograms.removewhitespaces;

public class RemoveWhiteSpaces {

	public static void main(String[] args) {
		String str = " JAVA     Programming    Tutorial";
		System.out.println("Before removing the white spaces : " + str);

		str = str.replaceAll("\\s", "");
		System.out.println("After removing the white spaces : " + str);

	}

}
```

Count occurrences of a character in a string

```
package com.dhruv.javaprograms.countoccurancesofchar;

public class CountCharacterOccurance {

	public static void main(String[] args) {
		String str = "Java Programming Tutorial";

		int  totalcount = str.length();
		int totalcountAfterRemove = str.replace("a", "").length();

		int count = totalcount - totalcountAfterRemove;
		System.out.println("Num occurance of a is " + count);
	}

}
```

Count words in a string

```
package com.dhruv.javaprograms.countwordinstring;

import java.util.*;

public class CountTheWords {

	public static void main(String[] args) {
		System.out.println("Enter the string : ");
		Scanner scn = new Scanner(System.in);

		String S = scn.nextLine();
		int count = 1;

		for(int i = 0; i < S.length() - 1; i++) {
			if((S.charAt(i)== ' ')&& (S.charAt(i + 1) != ' ')) {
				count++;
			}
		}

		System.out.println("Num of words in a string: " + count);
	}

}
```

Reverse Each Word in String

1> logic one

```
package com.dhruv.javaprograms.reverseeachwordinstring;

public class ReverseEachWordInString {

	public static void main(String[] args) {

		String str = " Welcome to Java";
		String[] words = str.split(" ");
		String reverseString = " ";
		for(String w : words) {
			String reverseword = " ";
			for(int i = w.length()-1 ; i>=0; i--) {
				reverseword = reverseword + w.charAt(i);
			}

			reverseString = reverseString + reverseword + "";
		}

		System.out.println(reverseString);
	}

}
```

2> logic two

```
package com.dhruv.javaprograms.reverseeachwordinstring;

public class ReverseEachWordInStringLogicOne {

	public static void main(String[] args) {

		String str = " Welcome to Java";
		String[] words = str.split(" ");
		String reverseString = " ";


		for(String w:words) {
			StringBuilder sb = new StringBuilder(w);
			sb.reverse();
			reverseString = reverseString + sb.toString() + " ";
		}


		System.out.println(reverseString);
	}

}
```