1.package day3\_Assignment;

public class Addition\_two\_num {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int num1=40;

int num2=59;

int num=num1+num2;

System.***out***.print("The sum of "+num1 + " & "+num2+" is: "+num);

}

}

2. package day3\_Assignment;

import java.util.Scanner;

public class Area\_of\_rec {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.println("Length of the rectangle= ");

int length=sc.nextInt();

System.***out***.println("Breadth of the rectangle= ");

int breadth=sc.nextInt();

int rec=length\*breadth;

System.***out***.println("area of Rectangle= "+rec);

}

}

3. package day3\_Assignment;

import java.util.Arrays;

public class Copy\_array {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] source = {5, 10, 15, 20, 25};

int[] destination = new int[source.length];

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

destination[i] = source[i];

}

System.***out***.println("Copied array: " + Arrays.*toString*(destination));

}

}

4. package day3\_Assignment;

import java.util.Scanner;

public class Count\_alp\_digi\_space\_spie {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.println("Enter a string");

String input=sc.nextLine();

int digits=0;

int letters=0;

int spaces=0;

int specialChars=0;

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

char ch=input.charAt(i);

if(Character.*isDigit*(ch)) {

digits++;

}else if(Character.*isLetter*(ch)) {

letters++;

}else if(Character.*isWhitespace*(ch)) {

spaces++;

}else {

specialChars++;

}

}

System.***out***.println("Letters: "+letters);

System.***out***.println("Digits: "+digits);

System.***out***.println("Spaces: "+spaces);

System.***out***.println("Special Characters: "+specialChars);

}

}

5. package day3\_Assignment;

import java.util.HashMap;

import java.util.Map;

public class Element\_frequency\_array {

public static void main(String[] args) {

// TODO Auto-generated method stub

int[] array = {10, 30, 10, 20, 10, 20, 30, 10, 40, 50, 40};

HashMap<Integer, Integer> frequencyMap = new HashMap<>();

for (int element : array) {

if (frequencyMap.containsKey(element)) {

frequencyMap.put(element, frequencyMap.get(element) + 1);

} else {

frequencyMap.put(element, 1);

}

}

System.out.println("Frequency of each element in the array:");

for (Map.Entry<Integer, Integer> entry : frequencyMap.entrySet()) {

System.out.println("Element " + entry.getKey() + " occurs " + entry.getValue() + " times.");

}

}

}

6. package day3\_Assignment;

import variables.Variable\_test;

public class Employe\_variable {

int empid,empage;

String empname;

long phoneno;

int salary;

static String *companyname*="XYZ";

void details(int empid1, int empage1, String name1,int salary1) {

empid=empid1;

empage=empage1;

empname=name1;

salary=salary1;

System.***out***.println("Empid="+empid);

System.***out***.println("Empage="+empage);

System.***out***.println("Empname="+empname);

System.***out***.println("Phoneno="+phoneno);

System.***out***.println("Companyname="+*companyname*);

}

public static void main(String[] args) {

// **TODO** Auto-generated method stub

Employe\_variable emp=new Employe\_variable();

System.***out***.println("\*\*\*1st Employe\*\*\*");

emp.details(101, 30, "pragati",50000);

System.***out***.println("\*\*\*2nd Employe\*\*\*");

emp.details(102, 32, "chinny",48000);

System.***out***.println("\*\*\*3rd Employe\*\*\*");

emp.details(103, 31, "jay",78000);

System.***out***.println("\*\*\*4th Employe\*\*\*");

emp.details(104, 35, "lishu",45000);

System.***out***.println("\*\*\*5th Employe\*\*\*");

emp.details(105, 32, "bhav",35000);

}

}

7. package day3\_Assignment;

import java.util.Scanner;

public class Even\_odd\_array {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.print("Enter the number of elements in the array: ");

int size = scanner.nextInt();

int[] numbers = new int[size];

System.***out***.println("Enter " + size + " integers:");

for (int i = 0; i < size; i++) {

numbers[i] = scanner.nextInt();

}

int evenCount = 0;

int oddCount = 0;

for (int num : numbers) {

if (num % 2 == 0) {

evenCount++;

} else {

oddCount++;

}

}

System.***out***.println("Even numbers count: " + evenCount);

System.***out***.println("Odd numbers count: " + oddCount);

}

}

8. package day3\_Assignment;

import java.util.Scanner;

public class Max\_min\_array {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.print("Enter the number of elements in the array: ");

int size = scanner.nextInt();

if (size <= 0) {

System.***out***.println("Array size must be greater than 0.");

return;

}

int[] numbers = new int[size];

System.***out***.println("Enter " + size + " integers:");

for (int i = 0; i < size; i++) {

numbers[i] = scanner.nextInt();

}

int max = numbers[0];

int min = numbers[0];

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

if (numbers[i] > max) {

max = numbers[i];

}

if (numbers[i] < min) {

min = numbers[i];

}

}

System.***out***.println("Maximum element: " + max);

System.***out***.println("Minimum element: " + min);

}

}

9. package day3\_Assignment;

import java.util.Arrays;

public class Merge\_two\_arrays {

public static int[] mergeAndSort(int[] arr1, int[] arr2) {

int[] mergedArray = new int[arr1.length + arr2.length];

System.*arraycopy*(arr1, 0, mergedArray, 0, arr1.length);

System.*arraycopy*(arr2, 0, mergedArray, arr1.length, arr2.length);

Arrays.*sort*(mergedArray);

return mergedArray;

}

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] arrayA = {5, 2, 8};

int[] arrayB = {1, 9, 3, 7};

int[] result = *mergeAndSort*(arrayA, arrayB);

System.***out***.println("Merged and Sorted Array: " + Arrays.*toString*(result));

}

}

10. package day3\_Assignment;

public class Palindrome\_array {

public static boolean isPalindrome(int[] arr) {

if(arr ==null||arr.length<=1){

return true;

}

int left=0;

int right=arr.length-1;

while(left<right) {

if(arr[left]!=arr[right]) {

return false;

}

left++;

right--;

}

return true;

}

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] palindromeArray= {1,2,3,2,1};

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

int[] singleElementArray= {7};

int[] emptyArray= {};

System.***out***.println("Is {1,2,3,2,1} a palindrome? "+ *isPalindrome*(palindromeArray));

System.***out***.println("Is {1,2,3,4,5} a palindrome? "+ *isPalindrome*(nonPalindromeArray));

System.***out***.println("Is {7} a palindrome? "+ *isPalindrome*(singleElementArray));

System.***out***.println("Is {} a palindrome? "+ *isPalindrome*(emptyArray));

}

}

11. package day3\_Assignment;

public class Palindrome {

public static boolean isPalindrome(String str) {

str = str.toLowerCase();

StringBuilder reversedStrBuilder = new StringBuilder(str);

reversedStrBuilder.reverse();

String reversedStr = reversedStrBuilder.toString();

return str.equals(reversedStr);

}

public static void main(String[] args) {

// **TODO** Auto-generated method stub

String test1 = "madam";

String test2 = "Racecar";

String test3 = "hello";

System.***out***.println("\"" + test1 + "\" is a palindrome: " + *isPalindrome*(test1));

System.***out***.println("\"" + test2 + "\" is a palindrome: " + *isPalindrome*(test2));

System.***out***.println("\"" + test3 + "\" is a palindrome: " + *isPalindrome*(test3));

}

}

12. package day3\_Assignment;

public class Prime\_num\_array {

public static boolean isPrime(int num) {

if(num<=1)

return false;

if(num % 2 == 0) {

return false;

}

return true;

}

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] arr = {12, 7, 19, 4, 15, 23, 10};

System.***out***.println("Prime numbers in the array:");

for (int num : arr) {

if (*isPrime*(num)) {

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

}

}

}

}

13. package day3\_Assignment;

public class Remove\_all\_white\_spaces {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

String originalString="This is a string with whitespaces. ";

System.***out***.println("Original String: \""+originalString+ "\"");

String modifiedString=originalString.replaceAll("\\s","");

System.***out***.println("String without whitespace: \""+modifiedString+"\"");

}

}

14. package day3\_Assignment;

import java.util.LinkedHashSet;

import java.util.Set;

public class Remove\_duplicates\_array {

public static void main(String[] args) {

// TODO Auto-generated method stub

int[] arr = {10, 20, 20, 30, 40, 10, 50};

Set<Integer> uniqueElements = new LinkedHashSet<>();

for (int num : arr) {

uniqueElements.add(num);

}

System.out.println("Array after removing duplicates:");

for (int num : uniqueElements) {

System.out.print(num + " ");

}

}

}

15. package day3\_Assignment;

public class Replace\_all\_spaces\_with\_hyphens {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

String originalString="This is String";

String modifiedString=originalString.replace(' ', '\_');

System.***out***.println("originalString: "+originalString);

System.***out***.println("modifiedString: "+modifiedString);

}

}

16. package day3\_Assignment;

public class Reverse\_array {

public static void main(String[] args) {

int[] arr = {10, 20, 30, 40, 50};

System.***out***.println("Array in reverse order:");

for (int i = arr.length - 1; i >= 0; i--) {

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

}

}

}

17. package day3\_Assignment;

public class Rotate\_array\_left {

static void leftRotatebyOne(int[] arr) {

int firstElement = arr[0];

for (int i = 0; i < arr.length - 1; i++) {

arr[i] = arr[i + 1];

}

arr[arr.length - 1] = firstElement;

}

public static void leftRotate(int[] arr, int d) {

d = d % arr.length;

for (int i = 0; i < d; i++) {

*leftRotatebyOne*(arr);

}

}

public static void printArray(int[] arr) {

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

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

}

System.***out***.println();

}

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] arr = {1, 2, 3, 4, 5, 6, 7};

int rotations = 2;

System.***out***.print("Original array: ");

*printArray*(arr);

*leftRotate*(arr, rotations);

System.***out***.print("Array after " + rotations + " left rotations: ");

*printArray*(arr);

}

}

17. package day3\_Assignment;

import java.util.Scanner;

public class Search\_for\_num\_array {

public static void main(String[] args) {

int[] arr = {12, 45, 67, 23, 89, 34, 90};

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

System.***out***.print("Enter the number to search: ");

int target = scanner.nextInt();

boolean found = false;

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

if (arr[i] == target) {

System.***out***.println("Number found at index: " + i);

found = true;

break;

}

}

if(!found) {

System.***out***.println("Number not found in the array.");

}

}

}

18. package day3\_Assignment;

public class Second\_highest\_array {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] arr = {10, 25, 45, 98, 75, 98};

if (arr.length < 2) {

System.***out***.println("Array must have at least two elements.");

return;

}

int first = Integer.***MIN\_VALUE***;

int second = Integer.***MIN\_VALUE***;

for (int num : arr) {

if (num > first) {

second = first;

first = num;

} else if (num > second && num < first) {

second = num;

}

}

if (second == Integer.***MIN\_VALUE***) {

System.***out***.println("No second highest element found (maybe all elements are the same).");

} else {

System.***out***.println("Second highest element is: " + second);

}

}

}

19. package day3\_Assignment;

import java.util.Scanner;

public class Sentence\_spliter {

public static void main(String[] args) {

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

System.***out***.println("Enter a sentence:");

String sentence = scanner.nextLine();

String[] words = sentence.trim().split("\\s+");

System.***out***.println("The sentence contains the following words:");

for (String word : words) {

System.***out***.println(word);

}

}

}

20. package day3\_Assignment;

import java.util.Scanner;

public class Simple\_interest {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.println("Enter principal amount:");

float principal=sc.nextInt();

System.***out***.println("Enter Anuual rate of interest:");

float rate=sc.nextInt();

System.***out***.println("Enter the time period in years:");

float time=sc.nextInt();

float simpleInterest=(principal\*rate\*time)/100;

System.***out***.println("SimpleInterest= "+simpleInterest);

}

}

21. package day3\_Assignment;

import java.util.Arrays;

public class Sort\_array\_asc {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int[] arr = {50, 20, 40, 10, 30};

Arrays.*sort*(arr);

System.***out***.println("Sorted array in ascending order: " + Arrays.*toString*(arr));

}}

22. package day3\_Assignment;

import java.util.Arrays;

import java.util.Scanner;

public class Sort\_characters {

public static void main(String[] args) {

// TODO Auto-generated method stub

Scanner sc=new Scanner(System.in);

System.out.println("Enter a string");

String input=sc.nextLine();

char[] characters=input.toCharArray();

Arrays.sort(characters);

String sortedString=new String(characters);

System.out.println("sorted characters: "+sortedString);

}

}

23. package day3\_Assignment;

import java.util.Scanner;

public class Start\_end\_letter {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.println("Enter a string:");

String input = scanner.nextLine();

String lowerInput = input.toLowerCase();

// Check if it starts with 'j' and ends with 'a'

if (lowerInput.startsWith("j") && lowerInput.endsWith("a")) {

System.***out***.println("The string starts with 'j' and ends with 'a'.");

} else {

System.***out***.println("The string does NOT start with 'j' and end with 'a'.");

}

}}

24. package day3\_Assignment;

import java.util.Scanner;

public class Sum\_of\_elements\_array {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

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

System.***out***.print("Enter the number of elements in the array: ");

int size = scanner.nextInt();

int[] numbers = new int[size];

System.***out***.println("Enter " + size + " integers:");

for (int i = 0; i < size; i++) {

numbers[i] = scanner.nextInt();

}

int sum = 0;

for (int num : numbers) {

sum += num;

}

System.***out***.println("Sum of array elements: " + sum);

}

}

25. package day3\_Assignment;

public class Swap\_two\_num {

public static void main(String[] args) {

// **TODO** Auto-generated method stub

int a=10;

int b=20;

System.***out***.println("Before Swapping a= "+a+",b= "+b);

int temp=a;

a=b;

b=temp;

System.***out***.println("After Swapping a= "+a+",b= "+b);}}

26. package day3\_Assignment;

public class Vowel{

public static void main(String[] args) {

// **TODO** Auto-generated method stub

String str="Programming";

str=str.toLowerCase();

int count=0;

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

char ch=str.charAt(i);

if (ch == 'a' || ch == 'e'|| ch == 'i' || ch == 'o'|| ch == 'u') {

count++;

}

}

System.***out***.println("Vowel count: "+count);

}

}

27. package day3\_Assignment;

import java.util.Scanner;

public class Words\_in\_sen {

public static void main(String[] args) {

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

System.***out***.println("Enter a sentence:");

String sentence = scanner.nextLine();

// Trim and check if sentence is empty

if (sentence.trim().isEmpty()) {

System.***out***.println("The sentence contains 0 words.");

} else {

// Split sentence by spaces (handles multiple spaces)

String[] words = sentence.trim().split("\\s+");

System.***out***.println("The sentence contains " + words.length + " words.");

}}}