**WOOD WAND**

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

**System.out.println("Enter the sentence");**

**String str = sc.nextLine();**

**String pattern = "[A-Za-z ]+";**

**if(str.matches(pattern)) {**

**String[] word = str.split(" ");**

**int wordCount=word.length;**

**System.out.print("Word Count: "+wordCount+"\n");**

**if(wordCount%2==0) {**

**for(int j=wordCount-1;j>=0;j--) {**

**System.out.print(word[j]+" ");**

**}**

**}else {**

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

**StringBuffer sobj=new StringBuffer(word[i]);**

**String rev=sobj.reverse().toString();**

**System.out.print(rev+" ");  }}**

**} else{**

**System.out.println("Invalid Sentence");}}}**

**WORDLENGTH**

**import java.util.Scanner;**

**public class UserInterface {**

**public static void main(String[] args) {**

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

**System.out.println("Enter the sentence");**

**String sentence = scanner.nextLine();**

**scanner.close();**

**String[] words = sentence.split(" ");**

**if (words.length < 2) {**

**System.out.println(sentence + " is an invalid sentence");**

**return;}**

**int maxLength = -1;**

**String longestWord = "";**

**boolean invalidWordFound = false;**

**for (String word : words) {**

**if (!word.matches("[a-zA-Z]+")) {**

**invalidWordFound = true;**

**System.out.println(word + " is an invalid word");**

**return;}**

**if (word.length() > maxLength) {**

**maxLength = word.length();**

**longestWord = word;  }}**

**if (invalidWordFound) {**

**return; }**

**StringBuilder reversedLongestWord = new StringBuilder(longestWord).reverse();**

**System.out.println(reversedLongestWord.toString());}}**

**SWAP AND REVERSE**

**System.out.println("Enter the sentence");**

**String sen = sc.nextLine();**

**System.out.println("Enter the word to reverse");**

**String word = sc.next();**

**StringBuffer buf = new StringBuffer(word);**

**if(sen.contains(word)){**

**String arr[] = sen.split(" ");**

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

**if(arr[i].equals(word)) {**

**buf.reverse();**

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

**} else {**

**System.out.print(arr[i]+" "); } }**

**}else{**

**System.out.println(word+" is an invalid word");  }**

**4.Broken telephone**

**int i =0,j=0,n=0,flag=0;**

**int c=0;**

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

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

**n=size;**

**if(size<3){**

**System.out.println(size+" is an invalid number of players");**

**return;}**

**else{**

**int[] a = new int[size];**

**int count=0;**

**System.out.println("Enter the messages stated by each player");**

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

**a[i]=sc.nextInt();**

**if(a[i]<=0){**

**System.out.println(a[i]+" is an invalid message");**

**flag++;**

**return;}}**

**if (a[0]==a[1]){**

**count++;}**

**if (a[size-2]==a[size-1]){**

**count++;}**

**for ( i = 1;i<size-1;i++){**

**if (a[i]==a[i+1]&&a[i]==a[i-1]){**

**count++;} }**

**c=size-count;}**

**if(n>0 && flag==0){**

**System.out.println("Score is "+c);}**

**5.GAME POINT**

**import java.util.Scanner;**

**public class UserInterface {**

**public static void checkQ(int arr[]) {**

**int n = arr.length;**

**if (n <= 0) {**

**System.out.println("Rounds cannot be " + n);**

**return;**

**} else {**

**int mp = 0;**

**int mpx = -1;**

**int ops = 0;**

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

**if (arr[i] > mp) {**

**mp = arr[i];**

**mpx = i;}}**

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

**if (i != mpx) {**

**ops = ops + arr[i];}}**

**if (mp > ops) {**

**System.out.println("Congratulations, you have qualified with a maximum point " + mp);**

**} else {**

**System.out.println("Sorry, you are not qualified");}}}**

**public static void main(String[] args) {**

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

**System.out.println("Enter the rounds");**

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

**if (n <= 0) {**

**System.out.println("Rounds cannot be " + n);**

**return;}**

**int arr[] = new int[n];**

**System.out.println("Enter the points");**

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

**arr[i] = sc.nextInt(); }**

**checkQ(arr);}}**

**6)SORTED**

**public class UserInterface {**

**public static void main(String[] args) {**

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

**System.out.println("Enter the size of the array");**

**int size = scanner.nextInt();**

**if(size<=0){**

**System.out.println(size + " is an invalid array size");**

**return;}**

**int[] arr = new int[size];**

**System.out.println("Enter the elements");**

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

**arr[i] = scanner.nextInt();}**

**boolean ascending =true;**

**boolean descending = true;**

**for(int i=0; i<size-1 ; i++){**

**if(arr[i]<arr[i+1]){**

**descending = false;}**

**if(arr[i]>arr[i+1]){**

**ascending = false;}}**

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

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

**if(ascending){**

**System.out.println("Array is sorted in ascending order");**

**} else if(descending){**

**System.out.println("Array is sorted in descending order");**

**} else {**

**System.out.println("Array is unsorted");}}}**

**7)STOCK SEN**

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

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

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

**int arr[] = new int[num];**

**if(num <= 1){**

**System.out.println("Need at least 2 days to calculate profit.");**

**return;}**

**System.out.println("Enter the stock prices for each day:");**

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

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

**arr[i] = val;}**

**int prof = 0;**

**int buy = 0;**

**int sell = 0;**

**int minday = 0;**

**int minprice = arr[0];**

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

**if(arr[i] < minprice){**

**minprice = arr[i];**

**minday = i;**

**}else{**

**int p = arr[i] - minprice;**

**if(p > prof){**

**prof = p;**

**buy = minday;**

**sell = i;}}}**

**buy++;**

**sell++;**

**System.out.println("Stock Profit Summary:");**

**if(prof > 0){**

**System.out.println("To get the maximum profit of " + prof + ", buy on Day " + buy + " and sell on Day " + sell + ".");**

**}else{**

**System.out.println("No profit could be made from the given prices.");}}}**