OOAD Lab Exercise 1

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Ans1.

import java.util.Scanner;

public class Main{

public static int[][] mulltiplication(int A[][], int B[][])

{

int size = A.length;

int[][] ans = new int[size][size];

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

{

for(int j=0; j<size; j++)

{

ans[i][j] = 0;

for(int k=0; k<size; k++)

{

ans[i][j] += A[i][k]\*B[k][j];

}

}

}

return ans;

}

public static void main(String args[]){

int size;

Scanner sc = new Scanner(System.in);

System.out.print("Enter size of cartan matrices = ");

size = sc.nextInt();

int[][] A = new int[size][size];

int[][] B = new int[size][size];

System.out.println("Enter the numbers for Matrix A :");

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

{

for(int j=0; j<size; j++)

A[i][j] = sc.nextInt();

}

System.out.println("Enter the numbers for Matrix B :");

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

{

for(int j=0; j<size; j++)

B[i][j] = sc.nextInt();

}

int [][]C = mulltiplication(A,B);

System.out.println("Ans matrix - ");

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

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

System.out.print(C[i][j]+" ");

}

System.out.println("");

}

}

}

Ans2.

import java.util.Scanner;

public class Main{

public static void main(String args[]){

int size;

Scanner sc = new Scanner(System.in);

System.out.print("Enter size of matrices = ");

size = sc.nextInt();

int[][] mat = new int[size][size];

System.out.println("Enter the numbers for Matrix :");

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

{

for(int j=0; j<size; j++)

mat[i][j] = sc.nextInt();

}

System.out.print("Enter order of submatrix = ");

int k = sc.nextInt();

int i=0,j=0;

while(i<=size-k){

j=0;

while (j<=size-k){

System.out.println("SUB\_MATRIX - ");

for(int ii=i;ii<i+k;ii++){

for(int jj=j;jj<j+k;jj++){

System.out.print(mat[ii][jj]+" ");

}

System.out.println("");

}

j+=k;

}

i+=k;

}

}

}

Ans3.

import java.util.Scanner;

public class Main{

public static void main(String args[]){

String s;

Scanner sc = new Scanner(System.in);

System.out.print("Enter the sentence = ");

s = sc.nextLine();

String strArray[] = s.split(" ");

int size = strArray.length;

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

char fist = strArray[i].charAt(0);

// System.out.println(fist);

if (fist == 'a' || fist=='e' || fist=='o' || fist=='u' || fist=='i' || fist=='A' || fist=='E' || fist=='I' || fist=='O' || fist=='U'){

String ss = strArray[i];

ss+="way";

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

}

else{

String new\_s = "";

int ind = -1;

int size2 = strArray[i].length();

for(int j=0;j<size2;j++){

char ff = strArray[i].charAt(j);

if (ff=='a' || ff=='e' || ff=='o' || ff=='u' || ff=='i'|| ff=='A' || ff=='E' || ff=='I' || ff=='O' || ff=='U'){

ind=j;

break; }

else{

new\_s+=ff;

}

}

if(ind==-1){

System.out.print(strArray[i]+"ay ");

}

else{

System.out.print(strArray[i].substring(ind,size2)+new\_s+"ay"+" ");

}

}

}

}

}

Ans4.

import java.util.Scanner;

public class Main{

public static int helper(int s,int b,int t){

int temp1 = b\*5;

if (temp1+s < t){

return -1;

}

else{

int mini = Math.min(temp1,t);

int remain = t-mini;

return remain;

}

}

public static void main(String args[]){

int small\_bag, big\_bag, req\_sum;

Scanner sc = new Scanner(System.in);

System.out.print("Enter number of small bag = ");

small\_bag = sc.nextInt();

System.out.print("Enter number of big bag = ");

big\_bag = sc.nextInt();

System.out.print("Enter total weight u wnna keep = ");

req\_sum = sc.nextInt();

if (helper(small\_bag,big\_bag,req\_sum)==-1){

System.out.println("Impossible");

}

else{

System.out.println("Minimum small bags required = "+ helper(small\_bag,big\_bag,req\_sum));

}

}

}