**Name: Trần Viết Thịnh**

**MSSV: 27211245057**

**LAB 03**

package Lab\_03\_example;

import java.util.Scanner;

public class Lab\_03\_ex07 {

static int check(long n) {

long sum=0;

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

if(n%i==0) {

sum+=i;

}

}

if(sum==n) {

return 1;

}else {

return 0;

}

}

public static void main(String[] args) {

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

System.***out***.println("Input number: ");

long n=inp.nextLong();

int KQ= *check*(n);

if(KQ==0) {

System.***out***.println(n+" không phải là Perfect Number");

}else {

System.***out***.println(n+" là Perfect Number");

}

System.***out***.println(n+" số hoàn hảo đầu tiên là: ");

int dem=1;

long i=1;

while(dem<=n) {

int KQ1=*check*(i);

if(KQ1==1) {

System.***out***.println("\t"+"So hoan hao thu "+dem+" : "+i);

dem++;

}

i++;

}

**Lab 04**

package Lab\_04\_example;

import java.util.Scanner;

public class Lab\_04\_ex04 {

public static void main(String[] args) {

double[] arr = new double[10];

double avg = 0;

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

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

System.***out***.print("n" + i + ": ");

arr[i] = scanner.nextDouble();

avg += arr[i];

}

avg /= arr.length;

System.***out***.println("Avg: " + avg + "\nGreater than avg:");

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

if (arr[i] > avg) {

System.***out***.println("n" + i + ": " + arr[i]);

}

}

scanner.close();

}

}

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package Lab\_04\_example;

import java.util.Scanner;

public class Lab\_04\_ex12 {

public static void main(String[] args) {

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

int a,b;

System.***out***.println(" Input number of rows of matrix ");

a=inp.nextInt();

System.***out***.println(" Input number of colums of matrix ");

b=inp.nextInt();

int array1[][]= new int [a][b];

int array2[][]=new int [a][b];

int sum[][]=new int [a][b];

System.***out***.println("Input elements of first matrix");

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

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

array1[i][j]=inp.nextInt();

}

}

System.***out***.println("Input the elements of second matrix");

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

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

array2[i][j]=inp.nextInt();

}

}

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

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

sum[i][j]= array1[i][j]+ array2[i][j];

}

}

System.***out***.println("Sum of two matrix ");

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

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

System.***out***.print(sum[i][j] +"\t");

}

System.***out***.println("\n");

}

}

}

}

}

**Lab 05**

package Lab\_05\_example;

import java.util.Scanner;

public class Lab\_05\_ex01 {

public static StringBuilder convertBin(int n)

{

StringBuilder sb = new StringBuilder();

while(n>0)

{

sb.append(n%2);

n/=2;

}

sb.reverse();

return sb;

}

public static String docso(int n)

{

switch(n)

{

case 0:

return "zero ";

case 1:

return "one ";

case 2:

return "two ";

case 3:

return "three ";

case 4:

return "four ";

case 5:

return "five ";

case 6:

return "six ";

case 7:

return "seven ";

case 8:

return "eight ";

case 9:

return "nine ";

}

return "N/A";

}

public static StringBuilder layso(int n)

{

StringBuilder sb = new StringBuilder();

while(n>0)

{

sb.insert(0,*docso*(n%10));

n/=10;

}

return sb;

}

public static void main(String[] args) {

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

System.***out***.println("nhap n: ");

int n = sc.nextInt();

System.***out***.println("Chuyen sang nhi phan : "+*convertBin*(n));

System.***out***.println("doc so : "+ *layso*(n));

}

}

**Lab 06**

package Lab\_06\_example;

import java.util.Scanner;

public class Lab\_06\_ex01\_phanso {

private int tu;

private int mau;

public Lab\_06\_ex01\_phanso() {

}

public Lab\_06\_ex01\_phanso(int tuso, int mauso) {

super();

this.tu = tu;

this.mau = mauso;

}

public int getTu() {

return tu;

}

public void setTu(int tu) {

this.tu = tu;

}

public int getMau() {

return mau;

}

public void setMau(int mau) {

this.mau = mau;

}

public void nhapphanso() {

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

do {

System.***out***.println("Nhập tử số: ");

tu = inp.nextInt();

System.***out***.println("Nhập mẫu số: ");

mau = inp.nextInt();

if (mau == 0) {

System.***out***.println("Mẫu số phải khác 0 ");

}

} while (mau == 0);

}

public void hienthiPhanSo() {

if (tu == 0)

System.***out***.println("0");

else if (mau == 1)

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

else if (mau < 0)

System.***out***.println("-" + tu + "/" + mau);

else

System.***out***.println(tu + "/" + mau);

}

public void nomalized() {

int a=tu ;

int b=mau;

while(a!=b) {

if(a>b) {

a=a-b;

}else {

b=b-a;

}

}

tu=tu/a;

mau=mau/a;

}

public Lab\_06\_ex01\_phanso congPhanSo(Lab\_06\_ex01\_phanso ps) {

Lab\_06\_ex01\_phanso Phansotong = new Lab\_06\_ex01\_phanso();

Phansotong.tu = tu \* ps.mau + ps.tu \* mau;

Phansotong.mau = mau \* ps.mau;

return Phansotong;

}

public Lab\_06\_ex01\_phanso truPhanSo(Lab\_06\_ex01\_phanso ps) {

Lab\_06\_ex01\_phanso Phansohieu = new Lab\_06\_ex01\_phanso();

Phansohieu.tu=tu\*ps.mau -ps.tu\*mau;

Phansohieu.mau = mau \* ps.mau;

return Phansohieu;

}

public Lab\_06\_ex01\_phanso nhanPhanso(Lab\_06\_ex01\_phanso ps) {

Lab\_06\_ex01\_phanso Phansonhan= new Lab\_06\_ex01\_phanso();

Phansonhan.tu= tu\*ps.tu;

Phansonhan.mau = mau \* ps.mau;

return Phansonhan;

}

public Lab\_06\_ex01\_phanso chiaPhanso(Lab\_06\_ex01\_phanso ps) {

Lab\_06\_ex01\_phanso Phansochia=new Lab\_06\_ex01\_phanso();

Phansochia.tu= tu\*ps.mau;

Phansochia.mau=mau\*ps.tu;

return Phansochia;

}

public static void main(String[] args) {

Lab\_06\_ex01\_phanso Phanso1 = new Lab\_06\_ex01\_phanso();

Phanso1.nhapphanso();

Phanso1.hienthiPhanSo();

System.***out***.println("Phân số sau khi rút gọn ");

Phanso1.nomalized();

Phanso1.hienthiPhanSo();

Lab\_06\_ex01\_phanso Phanso2= new Lab\_06\_ex01\_phanso(3,4);

Phanso2.nhapphanso();

Phanso2.hienthiPhanSo();

System.***out***.println("Phân số sau khi rút gọn ");

Phanso2.nomalized();

Phanso2.hienthiPhanSo();

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

System.***out***.println("Tổng hai phân số: ");

Phanso1.congPhanSo(Phanso2).hienthiPhanSo();

System.***out***.println("Hiệu hai phân số: ");

Phanso1.truPhanSo(Phanso2).hienthiPhanSo();

System.***out***.println("Tích hai phân số: ");

Phanso1.nhanPhanso(Phanso2).hienthiPhanSo();

System.***out***.println("Thương hai phân số: ");

Phanso1.chiaPhanso(Phanso2).hienthiPhanSo();

}

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package Lab\_06\_example;

import java.util.Random;

public class Lab\_06\_ex04\_tamgiac {

public static Lab\_06\_ex04\_tamgiac *p* =new Lab\_06\_ex04\_tamgiac();

public Random rand=new Random();

private int x;

private int y;

public int getX() {

return x;

}

public void setX(int x) {

this.x = x;

}

public int getY() {

return y;

}

public void setY(int y) {

this.y = y;

}

public Lab\_06\_ex04\_tamgiac() {

}

public Lab\_06\_ex04\_tamgiac(int x,int y) {

this.x=x;

this.y=y;

}

public void input() {

this.x= rand.nextInt(9)+1;

this.y=rand.nextInt(8)+2;

}

public String display() {

return "(" + this.x + "," + this.y + ")";

}

public float getlength(Lab\_06\_ex04\_tamgiac s1,Lab\_06\_ex04\_tamgiac s2) {

return (float)(Math.*sqrt*(Math.*pow*(s1.x-s2.x,2)+Math.*pow*(s1.y-s2.y, 2)));

}

public double distanceTo(Lab\_06\_ex04\_tamgiac p2) {

return Math.*sqrt*((p2.x-x)\*(p2.x-x)+(p2.y-y)\*(p2.y-y));

}

public double dientichtamgiac(Lab\_06\_ex04\_tamgiac s1, Lab\_06\_ex04\_tamgiac s2) {

double a,b,c,p;

a=this.distanceTo(s1);

b=this.distanceTo(s2);

c=s1.distanceTo(s2);

p= (a+b+c)\*0.5;

if(a+b>c&&a+c>b&&b+c>a) {

return Math.*sqrt*(p\*(p-a)\*(p-b)\*(p-c));

}

return -1;

}

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

Lab\_06\_ex04\_tamgiac p1 = new Lab\_06\_ex04\_tamgiac();

Lab\_06\_ex04\_tamgiac p2 = new Lab\_06\_ex04\_tamgiac();

Lab\_06\_ex04\_tamgiac p3 = new Lab\_06\_ex04\_tamgiac();

p1.input();

p1.display();

p2.input();

p2.display();

p3.input();

p3.display();

Lab\_06\_ex04\_tamgiac point = new Lab\_06\_ex04\_tamgiac();

System.***out***.println("\tKhoang cách 2 điểm:" + point.getlength(p1, p2));

if (p1.dientichtamgiac(p2, p3) != -1) {

System.***out***.println("\tDien tích tam giác: " + p1.dientichtamgiac(p2, p3));

} else {

System.***out***.println("3 điểm trên không tạo thành một tam giác ");

}}

Lab 08

public class Employee implements Comparable<Employee> {

private int age;

public Employee() {

// **TODO** Auto-generated constructor stub

age = 0;

}

public int getAge() {

return age;

}

public void setAge(int age) {

this.age = age;

}

*@Override*

public int compareTo(Employee o) {

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

if (this.age > o.age) {

return 1;

} else if (this.age < o.age) {

return -1;

}

return 0;

}

**Lab 09**

package Lab\_09\_example;

import java.util.Scanner;

public class Lab\_09\_ex02 {

public static void main(String[] args) {

int val, sum = 0;

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

System.***out***.println("Enter a line of text");

Scanner scanLine = new Scanner(scan.nextLine());

while (scanLine.hasNext()) {

try {

val = Integer.*parseInt*(scanLine.next());

sum += val;

} catch (Exception e) {

}

}

System.***out***.println("The sum of the integers on this line is " + sum);

scan.close();

}

Lab 10

public static void main(String[] args) throws IOException {

File file = new File("src/Lab\_10\_ex03/iofile.txt");

Scanner scr = new Scanner(file);

int line = 0;

while (scr.hasNextLine()) {

line += 1;

scr.nextLine();

}

System.***out***.print(line);

scr.close();

}

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public static void main(String[] args) throws IOException {

File file = new File("src/Lab\_10\_ex04/iofile.txt");

Scanner scr = new Scanner(file);

int line = 0;

int sum = 0;

while (scr.hasNextLine()) {

try {

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

sum += Integer.*parseInt*(scr.nextLine());

line += 1;

} catch (Exception e) {

// **TODO**: handle exception

System.***out***.println("dòng này kh phải số");

}

}

System.***out***.print((sum / line));

scr.close();

}