# 1: Conditional Statements programs:

* Calculator:

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package conditional;

public class calculator {

public static void main(String[] args) { int a = 9;

int b = 0;

char op = '\*';

switch (op) {

case '+':

System.out.println("Add:" + (a + b)); break;

case '-':

System.out.println("Sub:" + (a - b)); break;

case '\*':

System.out.println("Mul:" + (a \* b)); break;

case '/':

System.out.println("Div:" + (a / b)); break;

default:

System.out.println("Enter the operator correctly"); break;

}

}

}

* Largest of three numbers:

package conditional;

public class largestthree {

public static void main(String[] args) { int a=100;

int b=78; int c=199; if(a>b){

if(a>c){

System.out.println("a is largest");

}

else{

System.out.println("c is largest");

}

}

else if(b>c){

System.out.println("b is largest");

}

else{

System.out.println("c is largest");

}

}

}

* Leap year or Not :

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package conditional;

public class Leapyearornot {

public static void main(String args[]){ int yr=2024;

if(yr%4==0){

System.err.println("The given year is leap year");

}

else{

System.err.println("The given year is not a leap year");

}

}

}

* Number or Alphabet :
* package conditional;

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public class numoralph {

public static void main(String[] args) { String b="110h0"; if((b.charAt(0)>=65 &&

b.charAt(0)<=90)||(b.charAt(0)>=97&&b.charAt(0)<=122)){

System.out.println(" The given value is a Alphabet");

* }
* else if(b.charAt(0)>=48 && b.charAt(0)<=57){
* System.out.println("The given value is a number ");
* }
* else{
* System.out.println("The given value is not a number and not a Alphabet");
* }
* }
* }

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* Odd or Even:

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package conditional;

public class OddEven {

public static void main(String[] args) { int a=200;

if (a%2==0) {

System.out.println("even");

}

else {

System.out.println("Even");

}

}

}

* Valid ph num or not:
* package conditional;

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public class validph {

public static void main(String[] args) { String num="8825925027"; if(num.length()==10){

if(num.charAt(0)=='9'|| num.charAt(0)=='8'|| num.charAt(0)=='7'|| num.charAt(0)=='6')

{

System.out.print("the number is valid");

}

else{

System.out.println("The entered number is not a ph

number ");

* }

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}

* else{
* System.out.println("The entered number is not a ph number ");
* }
* }
* }

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=>BANK STATEMENT:

import java.util.\*;

public class bankstatement {

public static void main(String[] args) { Scanner sc = new Scanner(System.in);

System.out.println("To Check Banck Balance Enter Number 1"); System.out.println("To Withdraw Ampount Enter Number 2"); System.out.println("To Deposit Ampount Enter Number 3"); System.out.println("To Change Pin number Enter Number 4"); System.out.println("To view bank detatils Enter Number 5"); int number = sc.nextInt();

switch (number) { case 1:

System.out.println("Your Bank balance is : Balance amount"); break;

case 2:

System.out.println("Enter the Amount to be Withdraw"); break;

case 3:

System.out.println("Enter the Amount to be Deposit"); break;

case 4:

System.out.println("To change the pin number , Enter the new

Pin number");

break; case 5:

System.out.println("Your Bank detatils are"); break;

default:

System.out.println("Please Choose the correct Option");

}

}

}

# => PRIME NUMBER:

import java.util.\*; public class prime {

public static void main(String[] args) { Scanner sc=new Scanner(System.in); int num=sc.nextInt();int c=0; for(int i=1;i<=num;i++){

if(num%i==0){ c++;

}

}

if(c==2){

System.out.print(num+" is a prime number");

}

else{

System.out.print(num+" is not a prime number");

}

}

}

# 2: Operators:

* Area of circle:

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package operators;

public class areaofcircle {

public static void main(String[] args) { int r=10;

int pi= 22/7; int area;

area =pi\*(r\*r); System.err.println(area);

}}

* Area of Rectangle:

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package operators;

public class rect {

public static void main(String[] args) { int l=10;

int b=9;

System.out.println(" The Area of the rectangle is :"+(l\*b));

}

}

* Simple Interest:

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package operators;

public class simpleinterest {

public static void main(String[] args) { int p=100;

int n=1; int r=10;

int si;

|  |  |  |
| --- | --- | --- |
|      |  | si=(p\*n\*r)/100;  System.out.print("The Simple Interest :"+si); |
|    * }    | } |  |

* Area od Square :

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package operators;

public class squareArea

{

public static void main(String[] args) { int a=10;

System.out.println(" The Area of the Square is

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:"+(a\*a));

}

}

* Sum and Avg

|  |  |  |  |
| --- | --- | --- | --- |
|      | package operators; public class sumavg {  public static void main(String args[]){ | | |
|  | int a=100; | | |
|  | int b=80; | | |
|  | int c=99; | | |
|  | int d=92; | | |
|  | int e=70; | | |
|  | int sum;int avg; | | |
|        | |  | sum=a+b+c+d+e; avg=sum/5;  System.out.println("Sum ="+sum); System.out.println("Average ="+avg); |
|    * }    | | } |  |

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* rea of Triangle:

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package operators;

public class trianglearea {

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public static void main(String[] args) {

int h=10; int b=9;

System.out.println(" The Area of the Trinagle is

:"+((0.5)\*h\*b));

}

}

# 3:Looping Statements

# =>Sum of numbers

package loop;

import java.util.\*;

public class SumofNnumbers {

public static void main(String args[]) {

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

int sum=0;int n=sc.nextInt();

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

sum+=i;

}

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

}

}

# =>reversing the digits

package loop;

import java.util.\*;

public class reverseDigits {

public static void main(String args[]) {

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

System.***out***.println("Enter yoru number");

int num =sc.nextInt();

int n=num,n1,rev=0;

while(n!=0) {

n1=n%10;

// System.out.println("N1 "+n1);

rev=(rev\*10)+ n1;

// System.out.println(rev);

n=n/10;

}

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

}

# =>Random number

package loop;

import java.util.\*;

public class randomNumber {

public static void main(String args[]) {

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

Random rand =new Random();

System.***out***.println("Enter your Number");

int num=sc.nextInt();

for(int i=0;i<=10;i++) {

System.***out***.println(rand.nextInt(num));

}

}

}

# =>Perfect Number

package loop;

import java.util.\*;

public class perfectNumber {

public static void main(String args[]) {

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

// int num =sc.nextInt();

int j;

for(j=1;j<=10000;j++) {

int sum=0;

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

if(j%i==0) {

sum+=i;

// System.out.print(sum+" ");

}

}

if(sum==j) {

System.***out***.println(j+" Perfect number");

}

// else {

// System.out.println(" not Perfect number");

// }

}

}

}

# =>Odd number

package loop;

import java.util.\*;

public class Oddnumbers {

public static void main(String args[]) {

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

System.***out***.println("The odd nmbers are :");

for(int i=0;i<100;i++) {

if(i%2==1) {

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

}

}

}

}

# => ARMSTRONG NUMBER:

import java.util.\*; public class armstrong {

public static void main(String args[]){ Scanner sc=new Scanner(System.in);

int a=sc.nextInt(); int sum=0;

int num=a; System.out.println("a"+a+"num "+num); String s = Integer.toString(a);

int d=s.length(); while (a!=0){

int b=a%10; sum+=Math.pow(b,d); a=a/10;

}System.out.println(a); if(sum==num){

System.out.print(num+" is a Armstrong number");

}

else{

System.out.print(num+" is not a Armstrong number");

}

}

}

=>Largest Number

package loop;

import java.util.\*;

public class LargestNumber {

public static void main(String args[]) {

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

char choice;

int min=Integer.***MAX\_VALUE***;

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

do {

System.***out***.println("Enter your number");

int num=sc.nextInt();

if(num>max) {

max=num;

}

else if(num<min) {

min=num;

}

System.***out***.println("Do you want to continue Y/N?");

choice = sc.next().charAt(0);

}

while(choice =='y'||choice =='Y');

System.***out***.println("Largest Number : "+max);

System.***out***.println("Smallest Number : "+min);

// System.out.println("Zeroes : "+zero);

}

}

# => FACTORIAL:

import java .util.\*;

public class factorial1 {

public static void main(String args[]){ Scanner sc=new Scanner (System.in); int a=sc.nextInt();

int factorial = 1;

for(int i = 1; i <=a; i++){ factorial\*=i;

}

System.err.println("The factorial of "+a+" is "+factorial);

}

}

=> PALINDROME:

import java.util.\*; public class palindrome {

public static void main(String[] args) { Scanner sc=new Scanner(System.in); int a=sc.nextInt();

int num=a; String b=""; while(a>0){

int c=a%10; b+=c; a/=10;

}

int d=Integer.parseInt(b); if(num==d ){

System.out.println("The given value is palindrome");

}

else{

System.out.println("The given value is not a palindrome");

}

}

}

4: Strings:

=>(String Methods)

package Strings;

import java.util.\*;

public class Prj1 {

    public static void main(String args[]) {

        Scanner sc = new Scanner(System.in);

        String a = sc.nextLine();

        String b = sc.nextLine();

        System.out.println(a.charAt(0) + " For charAt()");

        System.out.println(a.codePointAt(0) + " For codePointAt()");

        System.out.println(a.codePointBefore(1) + " For codePointBefore()");

        System.out.println(a.compareToIgnoreCase(b) + " For compareToIgnoreCase()");

        System.out.println(a.concat(b) + " For concat()");

        System.out.println(a.contains("S") + " For contains()");

        System.out.println(a.contentEquals(b) + " For contentEquals()");

        System.out.println(a.endsWith("i") + " For endsWith()");

        System.out.println(a.equals(b) + " For equals()");

        System.out.println(a.equalsIgnoreCase(b) + " For equalsIgnoreCase()");

        System.out.println(a.replace('i', 'p'));

        System.out.println(a.replaceAll("hii", "bye"));

        {

// format() isEmpty//

            String myStr = "Hello %s! One kilobyte is %,d bytes.";

            String myStr2 = "";

            System.out.println(myStr2.isEmpty());

            String result = String.format(myStr, "World", 1024);

            System.out.println(result);

        }

    }

}

=>String Buffer and Builder

package Strings;

import java.util.\*;

public class Buffer{

    public static void main(String args[]) {

        Scanner sc = new Scanner(System.in);

        String a =sc.nextLine();

        StringBuffer s= new StringBuffer(a);

         //Append a String

        s.append("sibi");

        System.out.println(s+" :append");             //   hiisibi :append

        //To insert a string

        s.insert(0,"welcome");

        System.out.println(s+" :inserted");           //  welcomehiisibi :inserted

        // To replace a string

        s.replace(0, 2, "helo");

        System.out.println(s+" :replace");            //  helolcomehiisibi :replace

        //To reverse a string

        s.reverse();

        System.out.println(s+" :reverse");            //  ibisiihemocloleh :reverse

    }

}

# 5:Math

package Math;

public class prj {

    public static void main(String[] args) {

        double x = 20;

        double y = 9;

        System.out.println("Maximum number of x and y is: " +Math.max(x, y));

        System.out.println("Maximum number of x and y is: " +Math.min(x, y));

        System.out.println("Square root of y is: " + Math.sqrt(y));

        System.out.println("Power of x and y is: " + Math.pow(x, y));

        System.out.println("Logarithm of x is: " + Math.log(x));

        System.out.println("Logarithm of y is: " + Math.log(y));

        System.out.println("exp of a is: " +Math.exp(x));

        }

}

// output:

// Maximum number of x and y is: 20.0

//Maximum number of x and y is: 9.0

//Square root of y is: 3.0

//Power of x and y is: 5.12E11

//Logarithm of x is: 2.995732273553991

//Logarithm of y is: 2.1972245773362196

//exp of a is: 4.851651954097903E8

# PATTERN:

// 1 6 11 16 21

// 2 7 12 17 22

// 3 8 13 18 23

// 4 9 14 19 24

// 5 10 15 20 25

public class p1{

public static void main(String args[]){ int k=7;

for (int i = 1; i <=7; i++) { for (int j = 0; j<7;j++) {

System.out.print(i+j\*k+" ");

}

System.out.println("");

}

}

}

// 1

// 2 6

// 3 7 10

// 4 8 11 13

// 5 9 12 14 15

public class p2 {

public static void main(String[] args) { int n = 5; // size of the grid

// Generate and print the pattern for (int row = 1; row <= n; row++) {

// Print leading spaces for alignment

for (int space = n- row; space > 0; space--) { System.out.print(" ");

}

// Print the numbers in the pattern int value = row;

for (int col = 0; col < row; col++) { System.out.print(" "+value + " "); value += (n - col - 1);

}

System.out.println();

}

}

}

// \*

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// \*

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import java.util.\*;

public class p3 {

public static void main(String[] args) { Scanner you=new Scanner(System.in); int a=you.nextInt();

int x=(2\*a)-1; for(int i=1;i<=x;i++){

for(int j=1;j<=x;j++){

if(i==j || i+j==(x+1)){

System.out.print("\*");

}

else{

System.out.print(" ");

}

}

System.out.println("");

}

}

}

// \* \* \* \* \*

// \*

// \* \* \* \* \*

// \*

// \* \* \* \* \*

import java.util.\*; public class p4 {

public static void main(String[] args) { Scanner sc=new Scanner(System.in); int a=sc.nextInt();

int x=(a/2)+1; for(int i=1;i<=a;i++){

for(int j=1;j<=a;j++){

if(i==1 || i==a || i==x || (i<x && j==1) || (i>x && j==a)){ System.out.print("\* ");

}

else{ System.out.print(" ");

}

}

System.out.println("");

}

}

}

// \* \* \* \* \*

// \* \*

// \* \*

// \* \*

// \* \* \* \* \*

import java.util.\*; public class p5 {

public static void main(String args[]){ Scanner sc=new Scanner(System.in);

int a= sc.nextInt(); for(int i=1;i<=a;i++){

for(int j=1;j<=a;j++){

if(i==1 ||j==1||j==a||i==a){ System.out.print("\* ");

}

else{

System.out.print(" ");

}

}

System.out.println("");

}

}

}

// \* \* \* \* \*

// \* \* \* \*

// \* \* \*

// \* \*

// \*

import java.util.\*; public class p6 {

public static void main(String args[]){ Scanner sc=new Scanner(System.in); int a=sc.nextInt();

for(int i=1;i<=a;){ for(int j=1;j<=a;j++){

System.out.print("\* ");

}

a--;

System.out.println("");

}

}

}

// \*

// \* \*

// \* \* \*

// \* \* \* \*

// \* \* \* \* \*

import java.util.\*; public class p7 {

public static void main(String args[]){ Scanner sc=new Scanner(System.in); int a=sc.nextInt();

for(int i=1;i<=a;i++){ for(int j=1;j<=i;j++){

System.out.print("\* ");

}

// a--; System.out.println("");

}

}

}

// \* \* \* \* \*

// \* \* \* \*

// \* \* \*

// \* \*

// \*

import java.util.Scanner;

public class p8 {

public static void main(String args[]){ Scanner sc=new Scanner(System.in); int a=sc.nextInt();

for(int i=1;i<=a;i++){ for(int j=1;j<=a;j++){

if(j<i){

System.out.print(" ");

}

else{

System.out.print("\* "); }

}

System.out.println("");

}

}

}

// \*

// \* \* \*

// \* \* \* \* \*

// \* \* \* \* \* \* \*

import java.util.\*; public class p9 {

public static void main(String arga[]){ Scanner sc=new Scanner(System.in); int a=sc.nextInt();

int x=(a/2)+1; for(int i=1;i<=x;i++){

for (int j = 1; j <= a - i; j++) { System.out.print(" ");

}

for (int j = 1; j <= 2 \* i - 1; j++) { System.out.print("\* ");

}

System.out.println();

}

}

}