**Write a program to create a Matrix (3 by 3)**

//This program will create a 3 by 3 -matrix

**public** **class** Matrix {

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

**int** arr[][]=**new** **int**[3][3];

**int** val=10;

**for**(**int** i=0;i<3;i++)

{

**for**(**int** j=0;j<3;j++)

{

arr[i][j]=val;

val+=10;

}

}

**for**(**int** i=0;i<3;i++)

{

**for**(**int** j=0;j<3;j++)

{

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

}

System.*out*.println();

}

}

}

10 20 30

40 50 60

70 80 90

**public** **class** TransposeMatrix {

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

**int** arr[][]=**new** **int**[3][3];

**int** val=10;

**for**(**int** i=0;i<3;i++)

{

**for**(**int** j=0;j<3;j++)

{

arr[i][j]=val;

val+=10;

}

}

System.*out*.println("Before Transpose");

**for**(**int** i=0;i<3;i++)

{

**for**(**int** j=0;j<3;j++)

{

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

}

System.*out*.println();

}

System.*out*.println("After Transpose");

**int** temp;

**for**(**int** i=0 ;i<3;i++)

{

**for**(**int** j=0;j<i;j++)

{

temp=arr[j][i];

arr[j][i]=arr[i][j];

arr[i][j]=temp;

}

}

**for**(**int** i=0;i<3;i++)

{

**for**(**int** j=0;j<3;j++)

{

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

}

System.*out*.println();

}

}

}

**Write a program to find the are of Circle,Square,Rectangle and Triangle**

**public** **class** AreaCalculation {

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

System.*out*.println(*getAreaOfCircle*(5.5));

System.*out*.println(*getAreaOfRectangle*(4,5));

System.*out*.println(*getAreaOfSquare*(5));

System.*out*.println(*getAreaOfTriangle*(5, 6));

}

**static** **double** getAreaOfCircle(**double** rad)

{

**final** **double** PI= 3.14;

**double** area= PI \* rad \* rad;

**return** area;

}

**static** **double** getAreaOfSquare(**double** len)

{

**double** area=len \* len;

**return** area;

}

**static** **double** getAreaOfRectangle(**double** len,**double** breadth)

{

**double** area=len \* breadth;

**return** area;

}

**static** **double** getAreaOfTriangle(**double** base,**double** height)

{

**double** area= base \* height \* 1/2;

**return** area;

}

}

**Write a program to derive Fibonacci series from 1-100**

Ex: 1,1,2,3,5,8,13,21,34 …..

**public** **class** FibonacciSeries {

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

**int** first=0,second=1;

**int** next=1;

System.*out*.print(first + "," + second);

**int** maxval=100;

**while**(first+second <=maxval)

{

next=first + second;

System.*out*.print("," + next);

first=second;

second=next;

}

}

}

class fib

{

public static void main(String args[])

{

int a=-1,b=1,c;

for(int i=0;i<16;i++)

{

c=a+b;

System.out.println(c);

a=b;

b=c;

}

}

}

**Write a program to derive Factorial of a given number**

**public** **class** Factorial {

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

**int** num= 5;

**int** fact= 1;

System.*out*.println("Factorial of " + num );

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

{

fact=fact\*i;

}

System.*out*.println(fact);

}

}

**Write a program to verify if a given word is a palindrome**

**(Palindrome:characters appears same in both the directions eg: MADAM - Palindrome)**

**class** Palindrome

{

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

{

String original, reverse="";

System.*out*.println("Enter a string to check if it is a palindrome");

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

original = input.nextLine();

**int** length = original.length();

**for** ( **int** i = length - 1 ; i >= 0 ; i-- )

{

reverse = reverse + original.charAt(i);

}

**if** (original.equals(reverse))

{

System.*out*.println("Entered string is a palindrome.");

}

**else**

{

System.*out*.println("Entered string is not a palindrome.");

}

input.close();

}

}

**Write a program to print Prime Numbers in the given range.**

**import** java.util.Scanner;

**class** PrimeNumber {

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

**int** i;

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

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

**int** num = Integer.*parseInt*(input.nextLine());

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

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

**int** j;

**for** (j=2; j<i; j++){

**int** n = i%j;

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

**break**;

}

}

**if**(i == j){

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

}

}

}

}

**Write a program to print Prime Numbers in the given range.**

**import** java.util.Scanner;

**public** **class** PascalsTriangle {

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

{

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

System.*out*.println("Please enter the size of the triangle you want");

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

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

myArray = *fillArray*(myArray);

//myArray = calculateArray(myArray);

*printArray*(myArray); //prints the array

}

**private** **static** **int**[][] fillArray(**int**[][] array)

{

array[0][1] = 1;

**for** (**int** i = 1; i < array.length; i++)

{

**for** (**int** j = 1; j < array[i].length; j++)

{

array[i][j] = array[i-1][j-1] + array[i-1][j];

}

}

**return** array;

}

**private** **static** **void** printArray(**int**[][] array)

{

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

{

**for** (**int** j = 0; j < array[i].length; j++)

{

**if**(array[i][j] != 0)

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

}

System.*out*.println();

}

}

}

**Write a program to take a String as input and reverse**

**it.**

**public** **class** StringReverse {

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

String original, reverse = "";

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

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

original = in.nextLine();

**int** length = original.length();

**for** ( **int** i = length - 1 ; i >= 0 ; i-- )

{

reverse = reverse + original.charAt(i);

}

System.*out*.println("Reverse of entered string is: "+reverse);

}

}

**Write a program to reverse a number**

**public** **class** NumberReverse {

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

**int** original=12345;

StringBuffer reverse=**new** StringBuffer();

String str= Integer.*toString*(original);

**int** length = str.length();

**for** ( **int** i = length - 1 ; i >= 0 ; i-- )

{

reverse = reverse.append(str.charAt(i));

}

System.*out*.println("Reverse of the number " + reverse.toString());

}

}

**Write a program to print Floyd’s Triangle**

**public** **class** FloydsTriangle {

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

{

**int** i, j, n;

**for**( i = 1; i <= 5; i++)

{

**for**( j = i, n = 1; n <= i; n++, j++)

{

System.*out*.print(j%2 + " ");

}

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

}

}

}

**Write a program to print highest of 3 numbers**

**class** LargestOfThreeNumbers

{

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

{

**int** x, y, z;

System.*out*.println("Enter three integers ");

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

x = in.nextInt();

y = in.nextInt();

z = in.nextInt();

**if** ( x > y && x > z )

System.*out*.println("First number is largest.");

**else** **if** ( y > x && y > z )

System.*out*.println("Second number is largest.");

**else** **if** ( z > x && z > y )

System.*out*.println("Third number is largest.");

**else**

System.*out*.println("Entered numbers are not distinct.");

}

}

/\*An Armstrong number is a number such that the sum

! of its digits raised to the third power is equal to the number

! itself. For example, 371 is an Armstrong number, since

! 3\*\*3 + 7\*\*3 + 1\*\*3 = 371.\*/

**Write a program to find in a given number is Armstrong number**

**class** ArmstrongNumber

{

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

{

**int** n, sum = 0, temp, r;

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

System.*out*.println("Enter a number to check if it is an armstrong number");

n = in.nextInt();

temp = n;

**while**( temp != 0 )

{

r = temp%10;

sum = sum + r\*r\*r;

temp = temp/10;

}

**if** ( n == sum )

System.*out*.println("Entered number is an armstrong number.");

**else**

System.*out*.println("Entered number is not an armstrong number.");

}

}

**Write a program to print Armstrong number in a given range like 100 to 1000**

**public** **class** ArmstrongNumberInRange {

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

**for**(**int** num=100;num<=1000;num++)

{

**int** sum = 0, r=0, temp=num;

**while**( temp > 0 )

{

r = temp%10;

sum = sum + (r\*r\*r);

temp =temp/10;

}

**if** ( num == sum )

System.*out*.println("Number " + num + " is an armstrong number");

}

}

}

**Write a program for simple number sort**

**public** **class** SimpleNumberSort {

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

{

**int**[] arr=**new** **int**[5];

arr[0]=10;

arr[1]=30;

arr[2]=44;

arr[3]=50;

arr[4]=25;

Arrays.*sort*(arr);

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

{

System.*out*.println(arr[i]);

}

}

}

Sorting in descending order, however, is only possible either by writing your own sorting code, or converting your array to Integer objects then importing from the Collections library

Write a program for number sorting using bubble sort

for desceding order

**public** **class** IntegerSorting {

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

**int** temp;

**int** num[]={5,8,2,1,9};

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

{

**for**(**int** j=i+1; j < num.length; j++ )

{

// to get ascending order change it >

**if** ( num[i] < num[j] )

{

temp = num[ i ];

num[ i ] = num[ j ];

num[ j ] = temp;

}

}

}

**for**(**int** k=0; k < num.length; k++ )

{

System.*out*.println(num[k]);

}

}

}

Please solve this also

**1 Write a program to print odd numbers b/w 1-100**

**2.Write a program to print even numbers b/w 1-100**

**3.Write a program to print sum of 100 numbers**

**4. Write a program to print product of first 10 numbers**

**5Write a Java program to compare two numbers**

6. **Write a Java Program to list all even numbers between two numbers**

Write a program to print the below Triangle

1

23

456

78910

7 Write a program to 10 -1 in reverse order

8 Write a program to print

1

22

333

4444

55555

9 Write a program to find if two integers are both even or both odd none

10 Write a program to print all odd numbers from 10 -50

11Write a program to find the sum of all the numbers from 10-50 that are divisible by 3

**Write a program to get the following**

**input str1="Water,str2="Bottle"**

**o/p-WatBottleer**

**public** **class** StringManipulation1 {

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

String str1="Water";

String str2="Bottle";

//str2.replaceFirst("", str1.substring(0, 3));

//o/p WatBottle

//str1.substring(str1.length()-2, str1.length());

//o/p er

System.*out*.println(str2.replaceFirst("", str1.substring(0, 3))+ str1.substring(str1.length()-2, str1.length()));

}

}

**Write a Program to print average of the integer array elements and also to print the mean base on odd or even number of elements in the array**

**public** **class** ArrayAverage {

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

**int**[] numbers = **new** **int**[]{10,20,15,25,16,60,100,5,7};

//to print the average of array elements

**int** sum = 0;

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

sum = sum + numbers[i];

**double** average = sum / numbers.length;

System.*out*.println("Average value of array elements is : " + average);

//to give you the mean based on odd or even elements

// in the array

**if** (numbers.length % 2==0)

{

**int** num1pos=numbers.length/2;

**int** num2pos=num1pos +1;

**double** mean=(numbers[num1pos-1]+numbers[num2pos-1])/2;

System.*out*.println(mean);

}

**else**

{

**int** num1pos=numbers.length/2;

System.*out*.println(numbers[num1pos]);

}

}

}

**Write a program to divide a number without using / operator**

**public** **class** DivideWithOutOperator {

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

**int** number = 26;

**int** divisor = 5;

**int** result = 0;

**while**((number-divisor)>=0){

result++;

number = number - divisor;

}

System.*out*.println(result);

}

}

**Write a program to multiply 2 numbers without using number without using \* multiplication operator**

**public** **class** MultiplyWithoutOperator {

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

**int** number1 = 10;

**int** number2 = 5;

**int** result = 0;

**for**(**int** i=1;i<=number2;i++)

{

result=result + number1;

}

System.*out*.println(result);

}

}

**Write a program to sort numbers and digits in a given String**

**public** **class** SortingNumberAndDigits {

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

String str="abcd123efgh456";

**char**[] charArray = str.toCharArray();

StringBuffer str1=**new** StringBuffer();

StringBuffer str2=**new** StringBuffer();

**for**(**char** ch: charArray)

{

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

{

str1=str1.append(ch);

}

**else**

{

str2=str2.append(ch);

}

}

System.*out*.println(str1);

System.*out*.println(str2);

}

}

**Write a program to print A-Z and a-z**

**public** **class** PrintA2Z {

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

**for**(**char** ch='a';ch<='z';ch++){

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

}

System.*out*.println();

**for**(**char** ch='A';ch<='Z';ch++){

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

}

}

}

**Write a program to reverse a String and also**

**Sort the string characters alphabetically.**

**public** **class** ReverseAndSort {

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

String str="Hello Chennai";

StringBuffer str1 = **new** StringBuffer(str);

System.*out*.println(str1.reverse());

//to put it in a string

str=str1.reverse().toString();

System.*out*.println(str);

//code to sort

**char**[] charArray = str.toCharArray();

Arrays.*sort*(charArray);

str=**new** String(charArray);

System.*out*.println(str);

}

}

**Write a program to print a the following Triangle**

**1**

**1 1**

**1 1 1**

**1 1 1 1**

**1 1 1 1 1**

**public** **class** TriangleOne {

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

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

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

**int** numRow = in.nextInt();

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

// Prints the blank spaces

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

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

}

// Prints the value of the number

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

System.*out*.print("1 ");

}

System.*out*.println();

}

} }

**Write a program to print a the following Triangle**

**1**

**2 2**

**3 3 3**

**4 4 4 4**

**5 5 5 5 5**

**public** **class** RowNumberIncrementTriangle {

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

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

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

**int** numRow = in.nextInt();

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

// Prints the blank spaces

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

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

}

// Prints the value of the number

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

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

}

System.*out*.println();

}

}

}

**Write a program to print a the following Triangle**

**1**

**32**

**654**

**10987**

**public** **class** FlippedTriangle

{

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

{

**int** rows=4;

**int** cntr=1;

**int** start;

**int** val;

**for**(**int** i=1;i<=rows;i++)

{

**for**(**int** k=rows-i;k>=1;k--)

{

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

}

start=cntr + i-1;

val=start;

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

{

System.*out*.print(start);

start--;

cntr++;

}

System.*out*.println();

}

}

}

**Write a program to print the next characters in a given String**

**Ex:**

**String s1=”Selenium”**

**o/p should be- Tfmfojvn**

**public** **class** SetNextCharForString {

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

String str="Selenium";

StringBuffer str1=**new** StringBuffer();

**char** arr[]=str.toCharArray();

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

{

**char** ch=arr[i];

str1=str1.append(++ch);

}

System.*out*.println(str1);

}

}

**Write a program to print the perfect numbers b/w 1-500**

**Ex:**

**The number 6 is said to be a perfect number because it is equal to the sum of all its exact divisors (other than itself).   
6 = 1 + 2 + 3**

**public** **class** PerfectNumber{

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

**int** sum=0, x=0;

**for**(**int** num=1;num<500;num++)

{

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

{

x=num%i;

**if**(x==0)

sum=sum+i;

}

**if**(sum==num)

{

System.*out*.println("Perfect Number is: "+num);

System.*out*.println("Factors are: ");

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

{

x=num%i;

**if**(x==0)

System.*out*.println(i);

}

}

sum=0;

}

}

}

**Write a program to print the adams number**

If the reverse square root of the reverse of square of a number is the number itself then it is Adam Number.

12 and 21   
Take 12   
square of 12 = 144   
reverse of square of 12 = 441   
square root of the reverse of square of 12 = 21   
The reverse square root of the reverse of square of 12 = 12, then number itself.   
Such number is called Adam Number.

**class** AdamsNumber

{

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

{

AdamsNumber an = **new** AdamsNumber();

**int** i, n, rn;

**int** sn, rsn, rrsn;

System.*out*.println("List of Adam Numbers under 1000");

**for** (i = 10; i < 1000; i++)

{

n = i;

rn = an.ReverseNumber(i);

**if** (n == rn)

**continue**;

sn = n \* n;

rsn = rn \* rn;

rrsn = an.ReverseNumber(rsn);

**if** (rrsn == sn)

{

System.*out*.println(n);

}

}

}

**int** CountNumberOfDigits(**int** n)

{

**int** numdgits = 0;

**do**

{

n = n / 10;

numdgits++;

}

**while** (n > 0);

**return** numdgits;

}

**int** ReverseNumber(**int** n)

{

**int** i = 0, result = 0;

**int** numdigits = CountNumberOfDigits(n);

**for** (i = 0; i < numdigits; i++)

{

result \*= 10;

result += n % 10;

n = n / 10;

}

**return** result;

}

}