1.

**package** mathOperations;

**public** **class** Armstrong {

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

**int** number=153, remainder, result =0,a;

a=number;

**while**(a !=0)

{

remainder = a % 10;

result +=Math.*pow*(remainder,3);

a /=10;

}

**if** (result==number)

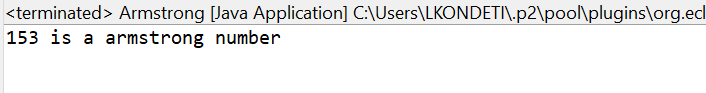
System.***out***.println(number+" is a armstrong number");

**else**

System.***out***.println(number+" is not a armstrong number ");

}

}



2.

**package** mathOperations;

**public** **class** ArmstrongNo {

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

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

{

**int** n=number;

**int** d=0,s=0;

**while**(n>0) {

d=n%10;

s=s+(d\*d\*d);

n=n/10;

}

**if**(number==s)

{

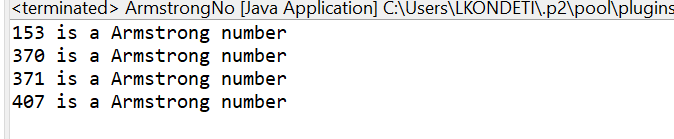
System.***out***.println(number + " is a Armstrong number");

}

}

}

}



3.

**package** mathOperations;

**import** java.util.\*;

**public** **class** SCInterest {

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

**double** principal, rate, time, simInterest, compInterest;

**try**(Scanner scanner = **new** Scanner (System. ***in***)){

System.***out***.println("Enter the value of Principal = ");

principal = scanner.nextDouble();

System. ***out***. println("Enter the Annual Rate of Interest = ");

rate = scanner.nextDouble();

System. ***out***. println("Enter the Time (years) = ");

time = scanner.nextDouble();

}

simInterest = (principal \* rate \* time)/100;

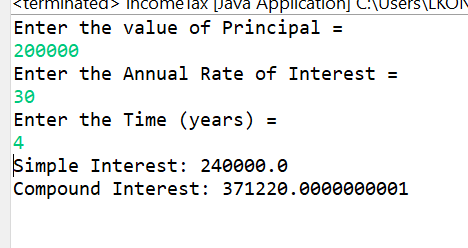
System.***out***.println("Simple Interest: "+simInterest);

compInterest = principal \* Math.*pow*(1.0+rate/100.0,time) - principal;

System.***out***. println("Compound Interest: "+compInterest);

}

}



4.

**package** mathOperations;

**import** java.util.\*;

**import** java.util.Scanner;

**public** **class** marks {

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

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

**int** subjects;

System.***out***.println("Enter the total subjects ");

subjects=sc.nextInt();

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

System.***out***.println("Enter the marks secured in each subject ");

**int** index =0;

**int** value = arr[index];

**for**(;index<arr.length;index++)

{

value=sc.nextInt();

}

**if**(value>60 == **true**) {

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

}

**if**(value>60||arr[index-1]>60 == **true**) {

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

}

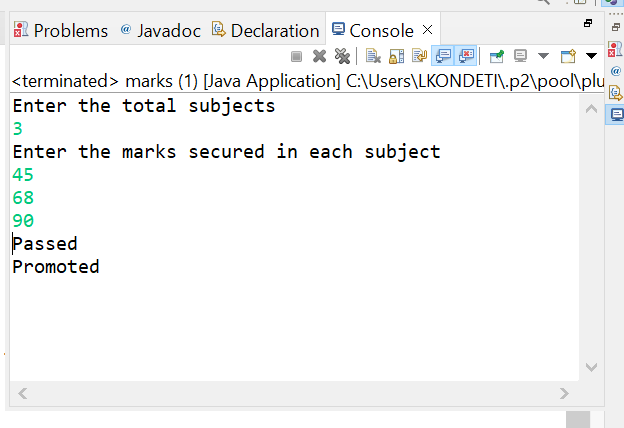
**if**(value<60 == **true**) {

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

}

}

}



5.

**package** mathOperations;

**import** java.util.\*;

**public** **class** incomeTax {

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

**double** tax=0,it;

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

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

it=sc.nextDouble();

**if**(it<=180000)

tax=0;

**else** **if**(it<=300000)

tax=0.1\*(it-180000);

**else** **if**(it<=500000)

tax=(0.2\*(it-300000))+(0.1\*100000);

**else** **if**(it<=1000000)

tax=(0.3\*(it-500000))+(0.2\*200000)+(0.1\*100000);

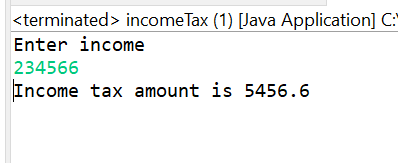
**else**

tax=(0.4\*(it-1000000))+(0.3\*500000)+(0.2\*200000)+(0.1\*100000);

System.***out***.println("Income tax amount is "+tax);

}

}



6.

**package** mathOperations;

**import** java.util.Scanner;

**public** **class** login\_page {

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

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

String sp=" ";

**int** count=0;

**while** (count <3) {

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

String uname = sc.nextLine();

**if**((uname.contains(sp)) || uname.length()<4){

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

**return**;

}

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

String upass = sc.nextLine();

**if**((upass.contains(sp)) || upass.length()<8){

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

**return**;

}

System.***out***.println(uname+" you are Registered Successfully");

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

String lname = sc.nextLine();

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

String lpass = sc.nextLine();

**int** totalAttempts=0;

**while** (totalAttempts != 0) {

**if**(uname.equals(lname) && upass.equals(lpass)){

System.***out***.println("Welcome "+lname+" you have Logged-in Successfully");

}

**else**{

System.***out***.println("Username or password Mismatch");

count++;

totalAttempts--;

**break**;

}

**if** (totalAttempts == 3) {

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

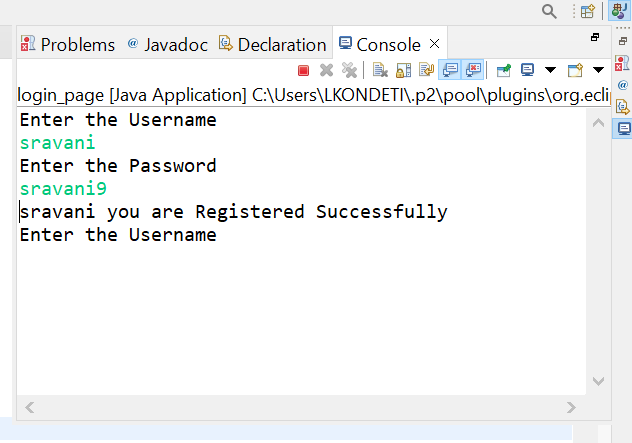
}

}

}

}

}



8.

**package** mathOperations;

**public** **class** bubbleSort {

**static** **void** bubble(**int**[] arr) {

**int** n = arr.length;

**int** temp = 0;

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

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

**if**(arr[j-1] > arr[j]){

//swap elements

temp = arr[j-1];

arr[j-1] = arr[j];

arr[j] = temp;

}

}

}

}

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

**int** arr[] ={3,60,35,2,45,320,5};

**int** key =30;

//System.out.println("key found");

*bubble*(arr);

//System.out.println("Array After Bubble Sort");

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

**if**(arr[i]==key) {

System.***out***.println(key+" is found at index: "+i);

}

}

}

}

9.

**package** mathOperations;

**import** java.util.\*;

**public** **class** totalAvg {

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

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

**float** marks1, marks2, marks3;

**float** sum = 0;

**float** avg = 0;

// take three numbers

System.***out***.print("Enter marks of the student A, B, C: ");

marks1 = scan.nextFloat();

marks2 = scan.nextFloat();

marks3 = scan.nextFloat();

sum = marks1 + marks2 + marks3;

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

avg = sum/3;

System.***out***.println("Average : " + avg);

}

}

