1. **import** java.lang.Math;

**public** **class** ArmStrong {

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

//creating instances

**int** num = 16345, origin , tempnum;

**double** sum = 0;

**double** count = 0;

**double** remainder;

**int** i = 1;

origin = num;

//counting the number of digits in number

tempnum = num;

**while**(tempnum>0) {

tempnum = tempnum/10;

count = count +1;

}

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

//calculate sum of the powers of the each digits

**while**(i <= count) {

remainder = num%10;

num = num/10;

sum += Math.*pow*(remainder , count);

i++;

}

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

//checking if the number is Armstrong or not

**if**(sum == origin)

{

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

}**else**

{

System.***out***.println(origin + " is Not an Armstrong Number");

}

}

}

1. **public** **class** Armstrong\_n {

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

{

//creating instances

**int** num, origin , tempnum;

**double** sum;

**double** remainder;

num = 100;

**while**(num < 1000)

{

sum = 0;

remainder = 0;

origin = num;

tempnum = num;

//calculate sum of the powers of the each digits

**while**(tempnum > 0) {

remainder = tempnum%10;

sum += remainder \* remainder\* remainder;

tempnum = tempnum/10;

}

//checking if the number is Armstrong or not

**if**(sum == origin)

{

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

}

num++;

}

}

}

1. **import** java.util.Scanner;

**public** **class** Simple\_and\_Compound {

**private** **static** Object *else\_if*;

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

{

//Creating instances

**double** principle, rate, time, amount;

**double** simple\_Interest = 0, compound\_Interest = 0;

**int** option, n;

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

System.***out***.println("Enter the principle amount:\n");

principle = scn.nextDouble();

System.***out***.println("Enter the rate:\n");

rate = scn.nextDouble();

rate = rate/100;

System.***out***.println("select the time period months or years:\n1. months\n2. years\n");

n= scn.nextInt();

System.***out***.println("Enter the period:\n");

time = scn.nextDouble();

**if**(n == 1)

{

time = time / 12;

}

**else**

{

time = time \* 1;

}

System.***out***.println("Enter which interest you want to do first:\n1. Simple interest\n2. Compound Interest\n");

option = scn.nextInt();

**if**(option == 1)

{

simple\_Interest = principle \* rate \* time;

System.***out***.println(simple\_Interest + " is Simple Interest of the given supplied");

}

**else** **if**(option == 2)

{

amount = principle \* (Math.*pow*((1.0 + rate), time));

compound\_Interest = amount - principle;

System.***out***.println(compound\_Interest + " is the compound interest of the given supplied");

}

**else** {

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

}

}

}

1. **import** java.util.Scanner;

**rpublic** **class** Marks {

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

**int** science, maths, english ;

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

System.***out***.println("Enter Science marks:");

science = scn.nextInt();

System.***out***.println("Enter Mathematics marks:");

maths = scn.nextInt();

System.***out***.println("Enter English marks:");

english = scn.nextInt();

**if**((science > 60) && (maths > 60) && (english> 60))

{

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

}

**else** **if**((science>60 && maths>60) || (maths>60 && english>60) || (english>60 && science>60))

{

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

}

**else** **if**((science>60 || maths>60 || english>60)||(science<60 && maths<60 && english<60))

{

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

}

**else**

{

System.***out***.println("Study Smart!!!");

}

}

}

1. **import** java.util.Scanner;

**import** java.lang.Math;

**public** **class** TDS {

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

**double** CTC, gross\_salary, provident\_fund, gratuity, income\_tax , Rent\_paid;

**double** taxable\_income,basic\_pay, HRA, standard\_deduction, professional\_tax, section\_80C;

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

System.***out***.println("Enter the CTC:");

CTC = scn.nextDouble();

System.***out***.println("Enter basic salary for 12 months:");

basic\_pay = scn.nextDouble();

System.***out***.println("Enter Actual HRA:");

HRA = scn.nextDouble();

System.***out***.println("Enter payable rent:");

Rent\_paid = scn.nextDouble();

System.***out***.println("Enter standard deduction:");

standard\_deduction = scn.nextDouble();

System.***out***.println("Enter professional tax:");

professional\_tax = scn.nextDouble();

System.***out***.println("Enter Section 80C Investment:");

section\_80C = scn.nextDouble();

provident\_fund = CTC \* 7/100;

gratuity = CTC \* 2/100;

gross\_salary = CTC - (provident\_fund + gratuity);

HRA = Math.*min*(HRA ,Math.*min*((Rent\_paid - (basic\_pay \* 10/100)),(basic\_pay \* 50/100)));

taxable\_income = (gross\_salary - (HRA + standard\_deduction +professional\_tax + section\_80C));

**if**(taxable\_income> 0 && taxable\_income< 180000)

{

income\_tax = taxable\_income \* 0/100;

System.***out***.println(income\_tax);

}

**else** **if**(taxable\_income > 180001 && taxable\_income < 300000)

{

income\_tax = taxable\_income \* 10/100;

System.***out***.println(income\_tax);

}

**else** **if**(taxable\_income> 300001 && taxable\_income<500000)

{

income\_tax = taxable\_income \* 20/100;

System.***out***.println(income\_tax);

}

**else** **if**(taxable\_income>500001 && taxable\_income<1000000)

{

income\_tax = taxable\_income \* 30/100;

System.***out***.println(income\_tax);

}

**else**

{

System.***out***.println("over limit!!!");

}

}

}

1. **import** java.util.Scanner;

**public** **class** CUI {

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

String username, password;

String user = "user";

String pass = "1234";

**int** attempt = 1;

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

**while**(attempt <= 3)

{

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

username = scn.nextLine();

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

password = scn.nextLine();

**if**((username != **null** && password != **null**)&&(username.equals(user) && password.equals(pass)))

{

System.***out***.println("Welcome " + username);

**break**;

}

**else**

{

System.***out***.println("Invalid username/password...!!!\n");

}

attempt++;

}

**if**(attempt > 3)

{

System.***out***.println("You are exceeded the attempts. Please contact Admin!!!");

}

}

}

1. **import** java.util.Scanner;

**public** **class** Arr {

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

**int**[] arr = {5, 12, 14, 6, 78, 19, 1, 23, 26, 35, 37, 7, 52, 86, 47};

**int** i,n;

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

System.***out***.println("Enter the number you want to search:");

n = scn.nextInt();

i = 0;

**while**(i<arr.length)

{

**if**(arr[i] == n)

{

System.***out***.println(n + " is present in the list of Array.");

**break**;

}

i++;

}

}

}

1. **public** **class** bubble\_sort {

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

{

**int** n = arr.length;

**int** i, j ,temp;

**for**(i=0; i<n-1;i++)

{

**for**(j=0; j<n-i-1; j++)

{

**if**(arr[j] > arr[j+1])

{

temp = arr[j];

arr[j] = arr[j+1];

arr[j+1] = temp;

}

}

}

**return**;

}

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

{

**int**[] arr = {5, 12, 14, 6, 78, 19, 1, 23, 26, 35, 37, 7, 52, 86, 47};

System.***out***.println("\nBefore sorting");

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

{

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

}

*bubble*(arr);

System.***out***.println("\nAfter sorting");

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

{

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

}

}

}

1. **import** java.util.Scanner;

**public** **class** Avg\_Student {

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

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

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

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

{

System.***out***.println("Enter S"+(i+1)+ "Marks:");

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

{

System.***out***.println("Enter M"+(j+1)+ " Marks:");

s[i][j] = scn.nextInt();

}

}

System.***out***.println("Average and total of each Student:");

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

{

**int** sumR = 0;

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

{

sumR = sumR + s[i][j];

}

System.***out***.println("Total of S"+(i+1)+" marks: "+sumR+"/300");

**int** total = sumR/3;

System.***out***.println("Average of S"+(i+1)+" marks: "+total+"\n");

}

System.***out***.println("Average and total of each Subject:");

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

{

**int** sumC = 0;

**for**(**int** j=0; j<s.length; j++)

{

sumC = sumC + s[i][j];

}

System.***out***.println("Total of M"+(i+1)+" marks: "+sumC+"/300");

**int** total = sumC/3;

System.***out***.println("Average of M"+(i+1)+" marks: "+total+"\n");

}

}

}