**DS Assignment**

1. **public** **class** Armstrongnumber {

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

**int** n = 153;

**int** temp = n;

**int** r;

**while**(n>0 && n!=0)

{

r = n%10;

n = n/10;

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

}

**if** (temp == sum)

{

System.***out***.println("This is an Armstrong Number");

}

**else** System.***out***.println("This is not an Armstrong Number");

}

}

1. **class** Armstronglist

{

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

{

**int** i=100,a,arm,n;

System.***out***.println("Armstrong numbers between 100 to 999 are");

**while**(i<1000)

{

n=i;

arm=0;

**while**(n>0)

{

a=n%10;

arm=arm+(a\*a\*a);

n=n/10;

}

**if**(arm==i)

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

i++;

}

}

}

1. **public** **class** Simplecompound {

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

**double** p, r, t, si;

**double** ci;

p=10000.0;

r=35.0;

t=3.0;

si=(p\*r\*t/100);

ci = p \* Math.*pow*(1.0+r/100.0,t)-p;

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

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

}

}

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

**public** **class** Marks

{

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

{

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

System.***out***.println("Enter First Subject Number: ");

**int** sub1 = sub.nextInt();

System.***out***.println("Enter Second Subject Number: ");

**int** sub2 = sub.nextInt();

System.***out***.println("Enter Third Subject Number: ");

**int** sub3 = sub.nextInt();

**if** (sub1>60 && sub2>60 && sub3>60)

{

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

}

**else** **if** (sub1>60 && sub2>60 || sub2>60 && sub3>60 || sub3>60 && sub1>60 )

{

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

}

**else** **if** (sub1<60 && sub2<60 || sub2<60 && sub3<60 || sub3<60 && sub1<60)

{

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

}

**else**

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

}

}

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

**public** **class** Tax

{

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

{

**double** tax;

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

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

**double** ctc = income.nextInt();

**if**((ctc >= 0) && (ctc <=180000))

{

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

}

**else** **if** ((ctc>=181001) && (ctc<=300000))

{

tax = ctc + (ctc\*10/100);

System.***out***.println("Your CTC is: " +ctc+ " and your Tax Amount is:" +tax);

}

**else** **if** ((ctc>=300001) && (ctc<=500000))

{

tax = ctc + (ctc\*20/100);

System.***out***.println("Your CTC is: " +ctc+ " and your Tax Amount is:" +tax);

}

**else** **if** ((ctc>=500001) && (ctc<=1000000))

{

tax = ctc + (ctc\*30/100);

System.***out***.println("Your CTC is: " +ctc+ " and your Tax Amount is:" +tax);

}

**else**

{

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

}

}

}

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

**public** **class** LoginUser

{

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

{

String uname, pwd;

**int** count = 0, atmp;

**while**(count<3)

{

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

System.out.println("Enter Login Name : ");

uname = sc.nextLine();

System.out.println("Enter Password : ");

pwd = sc.nextLine();

**if**(uname.equals("Sreeja") && pwd.equals("sreeja1234@"))

{

System.out.println("Welcome Sreeja!");

}

**else**

{

count++;

atmp = 3 – count;

System.out.println("Try Again. Attempts Left: " + atmp);

**if**(atmp == 0)

{

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

}}}

}

}

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

**public** **class** Sortarray {

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

**int** num, ele, i, arr[];

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

System.***out***.println("Enter Number of Elements: ");

num = sc.nextInt();

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

System.***out***.println("Enter the " +num+ " Elements for Array: ");

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

{

arr[i]=sc.nextInt();

}

System.***out***.println("Enter Element that you want to Search: ");

ele = sc.nextInt();

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

{

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

{

System.***out***.println("The element "+ele+ " is present in the Array.");

**break**;

}

}

**if** (i==num)

System.***out***.println("Element Not Present");

1. **public** **class** BubbleSort {

**static** **void** bubblesort(**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])

{

temp = arr[j-1];

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

arr[j]=temp;

}

}

}

}

**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("Array Before Bubble Sort");

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

{

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

}

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

*bubblesort*(arr);

System.***out***.println("array After Bubble Sort");

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

{

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

}

}

}

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

**public** **class** AverageMarks

{

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

{

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

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

**int** i, j, total = 0;

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

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

{

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

{

a[i][j]=sc.nextInt() ;

}

}

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

{

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

{

total=total+a[i][j];

}

}

System. ***out***. println("Total Marks in all Subjects is: "+ total);

System. ***out***. println("Average Marks in all Subjects is: "+ total/9);

total = 0;

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

{

total=0;

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

{

total=total+a[i][j];

}

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

System. ***out***. println("Total Marks for each student is: "+ total) ;

System. ***out***. println("Average Marks for each student is: "+ total/3);

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

total = 0;

}

}

}