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**Lab1**

//Lab Exercise No 1

public class ComplexNum {

float real,imag;

//constructors

**ComplexNum**(){

this.real = 0;

this.imag = 0;

}

**ComplexNum** (float x, float y){

this.real=x;

this.imag=y;

}

public ComplexNum **add**( ComplexNum c2){ ComplexNum c= new **ComplexNum**(); c.real = this.real + c2.real; c.imag=this.imag+c2.imag;

return c;

}

public ComplexNum **mult**(ComplexNum c2){ ComplexNum c= new **ComplexNum**();

c.real=(this.real)\*(c2.real)-(this.imag)\*(c2.imag); c.imag=(this.real)\*(c2.imag)- (this.imag)\*(c2.real); return c;

}

public void **ToString**(){

System.out.**print**("ComplexNum number is : ");

System.out.**println**(this.real + " + "+ this.imag +"i");

}

public static void **main**(String[] args){ ComplexNum c1=new **ComplexNum**(4,5);

c1.**ToString**();

ComplexNum c2=new **ComplexNum**(2,3);

c2.**ToString**();

c1=c1.**add**(c2);

c1.**ToString**();

c1=c1.**mult**(c2);

c1.**ToString**();

}

}

**Output**

ComplexNum number is : 4.0 + 5.0i

ComplexNum number is : 2.0 + 3.0i

ComplexNum number is : 6.0 + 8.0i

ComplexNum number is : -12.0 + 2.0i

// Practise set 1

import java.util.Scanner;

public class ScannerExample {

public static void **main**(String[] args) { Scanner scan = new **Scanner**(System.in); System.out.**println**("Enter your name: "); String name = scan.**nextLine**();

System.out.**println**("Enter your gender: "); char gender = scan.**next**().**charAt**(0);

System.out.**println**("Enter your age: "); int age = scan.**nextInt**();

System.out.**println**("Enter your mobile no: : "); long mobileNo = scan.**nextLong**();

System.out.**println**("Enter your CGPA: "); double cgpa = scan.**nextDouble**();

System.out.**println**("Name: "+name +"\nGender:" +gender +

"\nAge: "+age+"\nCGPA: "+cgpa);

}

}

**OUTPUT**

Enter your name:

Jin

Enter your gender:

Male

Enter your age:

19

Enter your mobile no: :

1234567890

Enter your CGPA:

8.7

Name: Jin

Gender:M

Age: 19

CGPA: 8.7

//Practise Set 2

public class Nth{

static int[] **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]){

//swap elements

temp = arr[j-1];

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

arr[j] = temp;

}

}

}

return arr;

}

public static void **main**(String [] args){ // I will use CLA as size of array

int[] arr={2,3,7,1,86,99,103,5};

arr=**bubbleSort**(arr);

int n=Integer.**parseInt**(args[0]);

System.out.**println**("Nth smallest Element "+arr[n-1]); System.out.**println**("Nth Largest Element "+arr[arr.length -

n]);

// Here I will print element count from 1 , not 0

}

}

**OUTPUT**

PS D:\ANDC\Sem-2\Java\Lab1> javac Nth.java

PS D:\ANDC\Sem-2\Java\Lab1> java Nth 2

Nth smallest Element 2

Nth Largest Element 99

* Practise Set 3 public class SumAtOdd {

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

int[] arr={2,3,7,1,86,99,103,5};

int sum=0;

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

if ((a%2)==0){

if (arr[a]%2!=0){

sum+=arr[a];

}

}

}

System.out.**println**("Sum of all odd numbers at even index is

"+sum);

}

}

**OUTPUT**

PS D:\ANDC\Sem-2\Java\Lab1> java SumAtOdd

Sum of all odd numbers at even index is 110