Practical No. 1

```
package Prac1;
import java.util.Scanner;

public class Complex {
    int real,img;

      Complex(){}

      Complex(int r, int i)
      {
            real = r;
            img = i;
      }

      public static void main(String[] args) {
        int choice;

      Complex num1 = new Complex();
      Complex num2 = new Complex();

      Scanner sc = new Scanner(System.in);

      System.out.println("\nEnter First Complex Number : \nReal :- ");
      num1.real = sc.nextInt();
      System.out.println("Imginary :- ");
      num1.img = sc.nextInt();

      System.out.println("\nEnter Second Complex Number : \nReal :- ");
      num2.real = sc.nextInt();
      System.out.println("Imginary :- ");
      num2.img = sc.nextInt();

      do {

        System.out.println("\n1.Addition \n2.Subtraction \n3.Multiplication
\n4.Division \n5.Exit");
        System.out.println("\nEnter your choice :- ");
        choice = sc.nextInt();

        switch(choice)
        {
            case 1:
                        add(num1,num2);
                        break;

            case 2:
                        sub(num1,num2);
                        break;

            case 3:
                        mul(num1,num2);
                        break;

            case 4:
                        div(num1,num2);
                        break;

            case 5:
                        break;
        }
      }while(choice < 5);
```

```
	}

	public static void add(Complex n1,Complex n2)
	{
		Complex res = new Complex();

		res.real = n1.real + n2.real;
		res.img  = n1.img + n2.img;

		System.out.println("Addition of two numbers : \nReal =>
"+res.real+"\nImginary => "+res.img);
	}

	public static void sub(Complex n1,Complex n2)
	{
	  Complex res = new Complex();

		res.real = n1.real - n2.real;
		res.img  = n1.img - n2.img;

		System.out.println("Subtraction of two numbers : \nReal =>
"+res.real+"\nImginary => "+res.img);
	}

	public static void mul(Complex n1,Complex n2)
	{
		Complex res = new Complex();

		res.real = n1.real * n2.real;
		res.img  = n1.img * n2.img;

		System.out.println("Multiplication of two numbers : \nReal =>
"+res.real+"\nImginary => "+res.img);
	}

	public static void div(Complex n1,Complex n2)
	{
		Complex res = new Complex();

		res.real =  n1.real / n2.real;
		res.img  = n1.img / n2.img;

		System.out.println("Division of two numbers : \nReal =>
"+res.real+"\nImginary => "+res.img);
	}
}
```

OUTPUT :

```
Enter First Complex Number :
Real :-
4
Imginary :-
3

Enter Second Complex Number :
Real :-
5
Imginary :-
2

1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Exit

Enter your choice :-
1
Addition of two numbers :
Real => 9
Imginary => 5

1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Exit

Enter your choice :-
2
Subtraction of two numbers :
Real => -1
Imginary => 1

1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Exit

Enter your choice :-
3
Multiplication of two numbers :
Real => 20
Imginary => 6

1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Exit
```

```
Enter your choice :-
4
Division of two numbers :
Real => 0
Imginary => 1

1.Addition
2.Subtraction
3.Multiplication
4.Division
5.Exit

Enter your choice :-
5
```