

Input File

2 2 3 3

1 10 4 10

6 6 4 8

10 10 10 8

NumberPlease Class

```
/**
    Saket Bakshi. 4/1/19. Period 6. This is used for the Number Please Lab.
    Creates a set 10 by 10 number array.
*/
public class NumberPlease
{
    private final int[][] grid =
    {
        {2, 4, 5, 6, 1, 8, 9, 1, 4, 5},
        {3, 5, 7, 9, 10, 3, 2, 5, 6, 7},
        {6, 4, 4, 5, 10, 8, 5, 6, 7, 8},
        {4, 7, 7, 9, 3, 2, 7, 14, 9, 0},
        {5, 6, 8, 8, 8, 7, 7, 5, 5, 7},
        {6, 5, 4, 6, 4, 1, 3, 6, 8, 7},
        {8, 8, 3, 7, 8, 4, 4, 4, 6, 3},
        {10, 8, 16, 7, 3, 7, 8, 25, 9, 2},
        {4, 8, 3, 8, 2, 4, 6, 7, 10, 4},
        {4, 3, 6, 8, 1, 4, 3, 7, 3, 4},
    }; //the default grid
    private int smallerX;
    private int smallerY;
    private int largerX;
    private int largerY;

    /**
        Creates a NumberPlease class to follow the directions of the Goucher College
        NumberPlease problem.
    */
    public NumberPlease()
    {
        smallerX = 0;
        smallerY = 0;
        largerX = 0;
        largerY = 0;
    }

    /**
        Calculates the sum of the numbers within a given triangle.
        @param x1 x-coordinate for one corner of the rectangle
        @param y1 y-coordinate for one corner of the rectangle
        @param x2 x-coordinate for another corner of the rectangle
    */
}
```

```

        @param y2 y-coordinate for another corner of the rectangle
        @return the total sum
    */
    public int findTotal(int x1, int y1, int x2, int y2)
    {
        int total = 0;

        if(x1 > x2)
        {
            smallerX = x2 - 1;
            largerX = x1 - 1;
        }
        else
        {
            smallerX = x1 - 1;
            largerX = x2 - 1;
        }

        if(y1 > y2)
        {
            smallerY = y2 - 1;
            largerY = y1 - 1;
        }
        else
        {
            smallerY = y1 - 1;
            largerY = y2 - 1;
        }

        for(int a = smallerY; a <= largerY; a++)
        {
            for(int b = smallerX; b <= largerX; b++)
            {
                total += grid[a][b];
            }
        }
        return total;
    }
}

```

Tester Class

```
import java.util.Scanner;
import java.io.File;
import java.io.FileNotFoundException;
/**
    Saket Bakshi. 4/1/19. Period 6. This is used for the Number Please Lab.
    Works with a file to find the sum of all numbers within a given rectangle.
*/
public class NumberPleaseTester
{
    public static void main(String[] args) throws FileNotFoundException
    {
        NumberPlease please = new NumberPlease();

        File inFile = new File("input.txt");
        Scanner scanned = new Scanner(inFile);

        while(scanned.hasNext())
        {
            int x1 = scanned.nextInt(); //20, 21, 47, 10
            int y1 = scanned.nextInt();
            int x2 = scanned.nextInt();
            int y2 = scanned.nextInt();
            System.out.println(x1 + ", " + y1 + " and " + x2 + ", " + y2 + ": " +
please.findTotal(x1, y1, x2, y2));
            if(scanned.hasNextLine())
                scanned.nextLine();
        }
    }
}
```

Tester for Single Testcase Class

```
import java.util.Scanner;
import java.io.File;
import java.io.FileNotFoundException;
/**
    Saket Bakshi. 4/1/19. Period 6. This is used for the Number Please Lab.
    Works with a testcase to find the sum of all numbers within a given rectangle.
*/
public class Main
{
    public static void main(String[] args) throws FileNotFoundException
    {
        NumberPlease please = new NumberPlease();

        File inFile = new File("input.txt");
        Scanner scanned = new Scanner(inFile);

        while(scanned.hasNext())
        {
            int x1 = scanned.nextInt();
            int y1 = scanned.nextInt();
            int x2 = scanned.nextInt();
            int y2 = scanned.nextInt();
            System.out.println(please.findTotal(x1, y1, x2, y2));
            if(scanned.hasNextLine())
                scanned.nextLine();
        }
    }
}
```

```
PS C:\Users\saket\Git\CSWork\JAVA\Labs\NumberPleaseP6BakshiSaket> java Main
20
21
47
10
PS C:\Users\saket\Git\CSWork\JAVA\Labs\NumberPleaseP6BakshiSaket>
```