

Laporan Hasil Tugas Praktek Pertemuan ke-11
Teknik Pemrograman Praktek



Oleh :

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1A

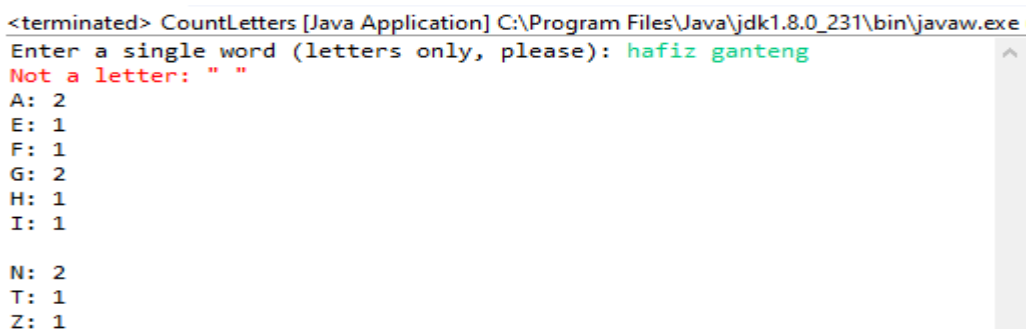
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Program D-IV Teknik Informatika
Jurusan Teknik Komputer dan Informatika
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- Kasus 1 Exceptions Aren't Always Errors

```
// *****
// CountLetters.java
//
// Reads a words from the standard input and prints the number of
// occurrences of each letter in that word.
//
// *****
import java.util.Scanner;
public class CountLetters
{
    public static void main(String[] args)
    {
        int[] counts = new int[26];
        Scanner scan = new Scanner(System.in);
        //get word from user
        System.out.print("Enter a single word (letters only, please): ");
        String word = scan.nextLine();
        //convert to all upper case
        word = word.toUpperCase();
        //count frequency of each letter in string
        for (int i=0; i < word.length(); i++) {
            try {
                counts[word.charAt(i)-'A']++;
            } catch (ArrayIndexOutOfBoundsException ex) {
                System.err.println("Not a letter: \"" + word.charAt(i)
+ "\"");
            }
        }
        //print frequencies
        System.out.println();
        for (int i=0; i < counts.length; i++)
            if (counts [i] != 0)
                System.out.println((char)(i +'A') + ": " + counts[i]);
    }
}
```

Hasil Program



```
<terminated> CountLetters [Java Application] C:\Program Files\Java\jdk1.8.0_231\bin\javaw.exe
Enter a single word (letters only, please): hafiz ganteng
Not a letter: " "
A: 2
E: 1
F: 1
G: 2
H: 1
I: 1

N: 2
T: 1
Z: 1
```

Pada program diatas diperintahkan menambahkan try dan catch dan menambahkan perintah Not a letter. Setelah di compile dan saya masukan inputan maka keluarannya akan seperti pada gambar yaitu diurutkan berdasarkan Huruf abjad dari A sampai Z dan pada program ini “spasi” tidak dianggap sebagai abjad dan bila “spasi digunakan maka akan mengeluarkan merah “Not a letter” .

- **Kasus 2 Placing Exception Handlers**

```
// *****
// ParseInts.java
//
// Reads a line of text and prints the integers in the line.
//
// *****
import java.util.Scanner;
public class ParseInts
{
    public static void main(String[] args)
    {
        int val, sum=0;
        Scanner scan = new Scanner(System.in);
        String line;
        System.out.println("Enter a line of text");
        Scanner scanLine = new Scanner(scan.nextLine());
        while (scanLine.hasNext()){
            try{
                val = Integer.parseInt(scanLine.next());
                sum += val;
            }
            catch(NumberFormatException ne){
            }
        }
        System.out.println("The sum of the integers on this line is " +sum);
    }
}
```

- **Hasil Program**

```
<terminated> ParseInts [Java Application] C:\Program Files\Java\jdk1.8.0_231\bin\javaw.exe (26 Jun 2021 19.44.41)
Enter a line of text
there are 20 birds and 30 dogs
The sum of the integers on this line is 50

<terminated> ParseInts [Java Application] C:\Program Files\Java\jdk1.8.0_231\bin\javaw.exe (26 Jun 2021 19.54.29)
Enter a line of text
we have 2 dogs and 1 cat
The sum of the integers on this line is 3
```

- Kasus 3 Throwing Exceptions

```
// *****
// Factorials.java
//
// Reads integers from the user and prints the factorial of each.
//
// *****
import java.util.Scanner;

public class Factorials
{
    public static void main(String[] args)
    {
        String keepGoing = "y";
        Scanner scan = new Scanner(System.in);
        while (keepGoing.equalsIgnoreCase("Y"))
        {
            System.out.print("Enter an integer: ");
            int val = scan.nextInt();
            try {
                System.out.println("Factorial(" + val + ") = "
                                   + MathUtils.factorial(val));
            } catch (IllegalArgumentException ex) {
                System.err.println(ex + "\n");
            }
            System.out.println("Another factorial? (y/n) ");
            keepGoing = scan.next();
        }
    }
}
```

```
// *****
// MathUtils.java
//
// Provides static mathematical utility functions.
//
// *****
public class MathUtils
{
    //-----
    // Returns the factorial of the argument given
    //-----
    public static int factorial(int n) throws IllegalArgumentException
    {
        if (n < 0) {
            throw new IllegalArgumentException(n + " Adalah Bilangan
Negatif tidak bisa mengeluarkan faktorial.");
        } else if (n > 16) {
            throw new IllegalArgumentException(n + " Adalah Terlalu
tinggi, Bilangan tidak boleh melebihi 16.");
        }
        int fac = 1;
        for (int i=n; i>0; i--)
            fac *= i;
        return fac;
    }
}
```

Hasil Program

```
Factorials [Java Application] C:\Program Files\Java\jdk1.8.0_231\bin\javaw.exe (26 Jun 2021 20.12.55)
Enter an integer: -2
java.lang.IllegalArgumentException: -2 Adalah Bilangan Negatif tidak bisa mengeluarkan faktorial.

Another factorial? (y/n)
y
Enter an integer: 17
java.lang.IllegalArgumentException: 17 Adalah Terlalu tinggi, Bilangan tidak boleh melebihi 16.
Another factorial? (y/n)

y
Enter an integer: 2
Factorial(2) = 2
Another factorial? (y/n)
y
Enter an integer: 4
Factorial(4) = 24
Another factorial? (y/n)
y
Enter an integer: 12
Factorial(12) = 479001600
Another factorial? (y/n)
```