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## Soal No 5.

Problem: Mengubah angka romawi ke decimal

Input: angka romawi

Output: desimal

```
1  import java.util.Scanner;
2
3  public class RomanToDecimal5 {
4
5      public static void main(String[] args) {
6          Scanner scanner = new Scanner(System.in);
7
8          System.out.print("Masukkan angka Romawi: ");
9          String romanInput = scanner.nextLine().toUpperCase();
10
11          romanToDecimal(romanInput);
12          // System.out.println("Nilai desimal dari " + romanInput + " adalah " + decimalOutput);
13          scanner.close();
14      }
15
16      public static void romanToDecimal(String roman) {
17          int[] values = {1, 5, 10, 50, 100, 500, 1000};
18          char[] numerals = {'I', 'V', 'X', 'L', 'C', 'D', 'M'};
19
20          int decimal = 0;
21          int prevValue = 0;
22
23          for (int i = roman.length() - 1; i >= 0; i--) {
24              char numeral = roman.charAt(i);
25              int value = getValue(numerals, values, numeral);
26
27              if (value == -1) {
28                  System.out.println("Ada Angka Romawi yang dimasukkan tidak valid");
29                  return;
30              }
31
32              if (value < prevValue) {
33                  decimal -= value;
34              } else {
35                  decimal += value;
36              }
37
38              prevValue = value;
39          }
40          System.out.println("Nilai desimal dari " + roman + " adalah " + decimal);
41      }
42  }
43
44      private static int getValue(char[] numerals, int[] values, char numeral) {
45          for (int i = 0; i < numerals.length; i++) {
46              if (numerals[i] == numeral) {
47                  return values[i];
48              }
49          }
50          return -1;
51      }
52  }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
orkspaceStorage\2986bddc83df91b80dcebf426fa7ac2b\redhat.java\jdt_ws\KUIS 2_d88788de\bin' 'RomanToDecimal5'  
Masukkan angka Romawi: XIV  
Nilai desimal dari XIV adalah 14  
PS C:\Users\Acer\Tugas Kuliah\Semester 1\Praktek Daspro\KUIS 2> █
```

## Soal No. 6

Problem: Mengubah desimal ke romawi

Input: decimal

Output: Romawi

```
1  import java.util.Scanner;  
2  
3  public class DecimalToRoman{  
4      public static void main(String[] args) {  
5          Scanner scanner = new Scanner(System.in);  
6  
7          System.out.print("Masukkan nilai desimal: ");  
8          int decimal = scanner.nextInt();  
9  
10         if (decimal < 1 || decimal > 3999) {  
11             System.out.println("Masukkan angka antara 1 dan 3999");  
12         } else {  
13             String roman = convertToRoman(decimal);  
14             System.out.println("Notasi Romawi: " + roman);  
15         }  
16  
17         scanner.close();  
18     }  
19  
20     private static String convertToRoman(int num) {  
21         // Simpan nilai desimal dan simbol Romawi dalam array  
22         int[] decimal = {1000, 900, 500, 400, 100, 90, 50, 40, 10, 9, 5, 4, 1};  
23         String[] romanList = {"M", "CM", "D", "CD", "C", "XC", "L", "XL", "X", "IX", "V", "IV", "I"};  
24  
25         String roman = "";  
26  
27         // Lakukan iterasi melalui nilai desimal dan tambahkan simbol Romawi ke string  
28         for (int i = 0; i < decimal.length; i++) {  
29             while (num >= decimal[i]) {  
30                 roman += romanList[i];  
31                 num -= decimal[i];  
32             }  
33         }  
34  
35         return roman;  
36     }  
37 }  
38
```

```
PS C:\Users\Acer\Tugas Kuliah\Semester 1\Praktek Daspro\KUIS 2> c:: cd 'c:\Users\Acer\Tugas Kuliah\Semester 1\Praktek Daspro\KUIS 2'; & 'C:\Program Files\Zulu\zulu-11\bin\java.exe' '-cp' 'C:\Users\Acer\AppData\Roaming\Code\User\workspaceStorage\2986bdc83df91b80dcebf426fa7ac2b\redhat.java\jdt_ws\KUIS_2_d88788de\bin' 'DecimalToRoman'  
Masukkan nilai desimal: 19  
Notasi Romawi: XIX  
PS C:\Users\Acer\Tugas Kuliah\Semester 1\Praktek Daspro\KUIS 2>
```