데이터융합SW과
김규석 교수

JAVA

기본 프로그래밍 06

Objective

Array

- Singledimensional Array
- Multidimensional Array

Array(Cont'd)

Singledimensional Array

- Arrays are used to store multiple values in a single variable
- int[] n = new int[3];
  → n[0], n[1], n[2]


```
6⊖    public static void main(String[] args) {
7         int[] numbers = new int[10];
8         String[] name = {"kim", "lee", "park"};
9
10        for (int i = 0; i < numbers.length; i++) {
11            System.out.println(numbers[i]);
12        }
13
14        for (int i = 0; i < name.length; i++) {
15            System.out.println(name[i]);
16        }
17    }
```

Problems @ Javadoc Declaration Console

<terminated> Main [Java Application] C:₩Users₩CTC₩.p2₩pool₩

```
0
0
0
0
0
0
0
0
0
0
kim
lee
park
```

P1 : Print "number[10]" and "name[3]"

Array(Cont'd)

Multidimensional Array

- Arrays are used to store multiple values in a single variable
- int[] n = new int[3][4];

→


```
6      public static void main(String[] args) {
7          int[][] numbers = new int[3][5];
8          int cnt;
9          cnt = 0;
10         for (int i = 0; i < 3; i++) {
11             for (int j = 0; j < 5; j++) {
12                 numbers[i][j] = cnt;
13                 cnt++;
14             }
15         }
16     }
```

P2 : Print the array "numbers[][]"

Array

Multidimensional Array II

- Each Row could have different size of columns

```
6       public static void main(String[] args) {
7           int[][] numbers = {{1, 2, 3}, {4, 5}};
8       }
9   }
```

P3 : Print the array “numbers[][]”

P4

Sort

- Initialize an array with the elements below
  {2, 33, 7, 5, 12, 34, 99, 25, 28, 53, 20}

- Sort the array in ascending order and print

- Sort the array in descending order and print

P5

Descriptive Statistics

- Create a two dimensional string array
- Calculate the summation, average, minimum, maximum of scores for each subject and person
- Hint, Integer.parseInt();

Name	Korean	English	Math
Jeong	70	80	100
Pyo	60	70	86
Choi	54	100	82
Mike	87	95	79

P6

Counting a Specified Character

- User inputs a string and assign it into an array
- User inputs a word and assign it into an array
- Count how many are the input words included in the string

I go to school. Where are you going?
o
6

I go to school. Where are you going?
go
3

P7

Encryption

- User inputs a string

- Print the encrypted string

- To encrypt the string, use an array to match characters one to one
(ex, original = {1, 2, 3}, encrypted = {a, b, c})

- Write a scenario and compose it

abcd
zyxw

P8

Decryption

- Regarding as the previous practice, user inputs a string

- Print the decrypted string

zyxw
abcd

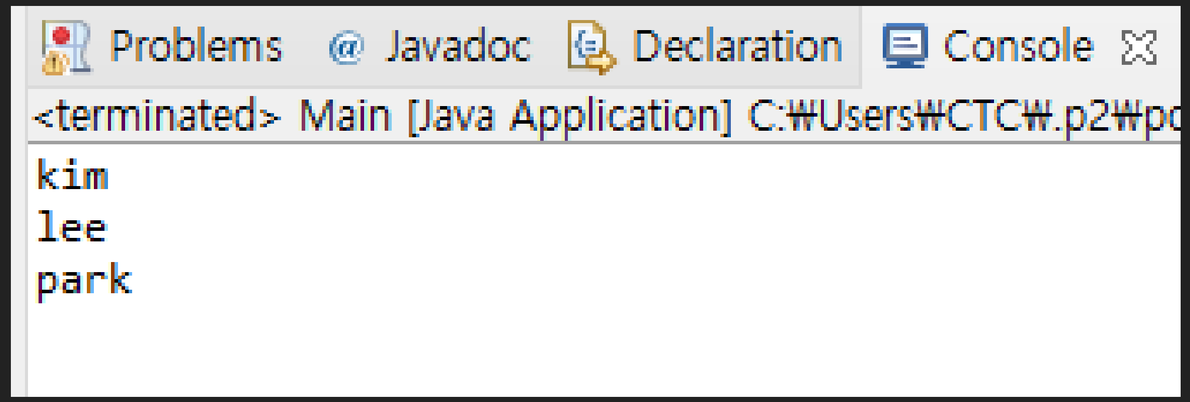
P9

split()

- [Background]
  split() is used to split the string against given regular expression

- [Background]
  The following is the example

```
15 public class Main {
16     public static void main(String[] args) {
17         String words ="kim,lee,park";
18         String[] names = words.split(",");
19 
20         for (int i = 0; i < names.length; i++) {
21             System.out.println(names[i]);
22         }
23     }
24 }
```



- User inputs a string

- Split the input string against a black(“ “) and print the result