

Yanuar Thaif Chalil Candra

224172004 / 29 / Ti-1i

Experiment 1

```
J Arr1.java > Arr1 > main(String[])
1 public class Arr1
2 {
    Run | Debug
3 public static void main(String[] args)
4 {
5     int[][] number = new int [2][3];
6     number[0][0] = 12;
7     number[0][1] = 14;
8     number[0][2] = 34;
9     number[1][0] = 20;
10    number[1][1] = 24;
11    number[1][2] = 67;
12    System.out.println(number[0][0] + " " + number[0][1] + " " + number[0][2]);
13    System.out.println(number[1][0] + " " + number[1][1] + " " + number[1][2]);
14 }
15 }
```

```
D:\hiya kuliah\P_Daspro\java>javac Arr1.java && java Arr1
12 14 34
20 24 67
```

Questions 1



1. No, because the array elements already determined by the first and second box ("[]") so it doesn't need to be filled sequentially

```
J Arr1.java > Arr1 > main(String[])
1 public class Arr1
2 {
    Run | Debug
3 public static void main(String[] args)
4 {
5     int[][] number = new int [2][3];
6     number[0][0] = 12;
7     number[0][2] = 34;
8     number[1][0] = 20;
9     number[1][2] = 67;
10    System.out.println(number[0][0] + " " + number[0][1] + " " + number[0][2]);
11    System.out.println(number[1][0] + " " + number[1][1] + " " + number[1][2]);
12 }
13 }
```

- 2.

```
D:\hiya kuliah\P_Daspro\java>javac Arr1.java && java Arr1
12 0 34
20 0 67
```




Experiment 2

```
J Arr2.java >  Arr2 >  main(String[])
1  public class Arr2
2  {
    Run | Debug
3  public static void main(String[]args)
4  {
5      int[][] number = new int [2][3];
6      number[0][0] = 12;
7      number[0][1] = 14;
8      number[0][2] = 34;
9      number[1][0] = 20;
10     number[1][1] = 24;
11     number[1][2] = 67;
12     for (int i = 0; i < 2; i++)
13     {
14         for (int j = 0; j < 3; j++)
15         {
16             System.out.print(number[i][j] + " ");
17         }
18         System.out.println(x: "");
19     }
20 }
21 }
```

```
D:\hiya kuliah\P_Daspro\java>javac Arr2.java && java Arr2
12 14 34
20 24 67
```

Questions 2




1. 3 Columns

```
J Arr2.java >  Arr2 >  main(String[])
1  public class Arr2
2  {
    Run | Debug
3  public static void main(String[] args)
4  {
5      int[][] number = new int [2][4];
6      number[0][0] = 12;
7      number[0][1] = 14;
8      number[0][2] = 34;
9      number[1][0] = 20;
10     number[1][1] = 24;
11     number[1][2] = 67;
12     number[0][3] = 58;
13      number[1][3] = 69;
14     for (int i = 0; i < 2; i++)
15     {
16         for (int j = 0; j < 3; j++)
17         {
18             System.out.print(number[i][j] + " ");
19         }
20         System.out.println(x: "");
21     }
22 }
23 }
```

```
D:\hiya kuliah\P_Daspro\java>javac Arr2.java && java Arr2
12 14 34
20 24 67
```

The output remains the same

```

J Arr2.java >  Arr2 >  main(String[])
1  public class Arr2
2  {
    Run | Debug
3  public static void main(String[] args)
4  {
5      int[][] number = new int [2][4];
6      number[0][0] = 12;
7      number[0][1] = 14;
8      number[0][2] = 34;
9      number[1][0] = 20;
10     number[1][1] = 24;
11     number[1][2] = 67;
12     number[0][3] = 58;
13     number[1][3] = 69;
14     for (int i = 0; i < number.length; i++)
15     {
16          for (int j = 0; j < number[0].length; j++)
17         {
18             System.out.print(number[i][j] + " ");
19         }
20         System.out.println(x: "");
21     }
22 }
23 }

```

2.



```

D:\hiya kuliah\P_Daspro\java>javac Arr2.java && java Ar
12 14 34 58
20 24 67 69

```

Added more column in the output

```

J Arr2.java >  Arr2 >  main(String[])
1  public class Arr2
2  {
    Run | Debug
3      public static void main(String[] args)
4      {
5          int[][] number = new int [2][4];
6          number[0][0] = 12;
7          number[0][1] = 14;
8          number[0][2] = 34;
9          number[1][0] = 20;
10         number[1][1] = 24;
11         number[1][2] = 67;
12         number[0][3] = 58;
13         number[1][3] = 69;
14         for (int array[] : number)
15         {
16             for (int r : array)
17             {
18                 System.out.print(r + " ");
19             }
20             System.out.println(x: "");
21         }
22     }
23 }

```

3.

```

D:\hiya kuliah\P_Daspro\java>javac Arr2.java && java Arr2
12 14 34 58
20 24 67 69

```

The output is the same as the number 2 does

Experiment 3

```
J Arr3.java > Arr3 > main(String[])
1  import java.util.Scanner;
2  public class Arr3
3  {
4      Run | Debug
      public static void main (String[]args)
5      {
6          Scanner input = new Scanner (System.in);
7          int[][] number = new int [2][3];
8          for (int i = 0; i < number.length; i++)
9          {
10             for (int j = 0; j < number[0].length; j++)
11             {
12                 System.out.print("Enter a number [" + i + "][" + j + "]: ");
13                 number[i][j] = input.nextInt();
14             }
15             System.out.println(x: "-----");
16         }
17         for (int i = 0; i < number.length; i++)
18         {
19             for (int j = 0; j < number[0].length; j++)
20             {
21                 System.out.print(number[i][j] + " ");
22             }
23             System.out.println(x: "");
24         }
25     }
26 }
```

```
D:\hiya kuliah\P_Daspro\java>javac Arr3.java && java Arr3
Enter a number [0][0]: 5
Enter a number [0][1]: 6
Enter a number [0][2]: 7
-----
Enter a number [1][0]: 3
Enter a number [1][1]: 2
Enter a number [1][2]: 1
-----
5 6 7
3 2 1
```

Questions 3

1. Because i and j are only used to determine the elements of array

```
J Arr3.java > Arr3 > main(String[])
1  import java.util.Scanner;
2  public class Arr3
3  {
    Run | Debug
4      public static void main (String[]args)
5      {
6          Scanner input = new Scanner (System.in);
7          System.out.print(s: "Enter the number of row: ");
8          int row = input.nextInt();
9          System.out.print(s: "Enter the number of column: ");
10         int col = input.nextInt();
11         int[][] number = new int [row][col];
12         for (int i = 0; i < number.length; i++)
13         {
14             for (int j = 0; j < number[0].length; j++)
15             {
16                 System.out.print("Enter a number [" + i + "][" + j + "]: ");
17                 number[i][j] = input.nextInt();
18             }
19             System.out.println(x: "-----");
20         }
21         for (int i = 0; i < number.length; i++)
22         {
23             for (int j = 0; j < number[0].length; j++)
24             {
25                 System.out.print(number[i][j] + " ");
26             }
27             System.out.println(x: "");
28         }
29     }
30 }
```

- 2.

```
D:\hiya kuliah\P_Daspro\java>javac Arr3.java && java Arr3
Enter the number of row: 4
Enter the number of column: 2
Enter a number [0][0]: 2
Enter a number [0][1]: 3
-----
Enter a number [1][0]: 5
Enter a number [1][1]: 6
-----
Enter a number [2][0]: 7
Enter a number [2][1]: 8
-----
Enter a number [3][0]: 1
Enter a number [3][1]: 0
-----
2 3
5 6
7 8
1 0
```

```

J Arr3.java > Arr3 > main(String[])
1  import java.util.Scanner;
2  public class Arr3
3  {
    Run | Debug
4  public static void main (String[]args)
5  {
6      Scanner input = new Scanner (System.in);
7      System.out.print(s: "Enter the number of row: ");
8      int row = input.nextInt();
9      System.out.print(s: "Enter the number of column: ");
10     int col = input.nextInt();
11     int[][] number = new int [row][col];
12     for (int i = 0; i < number.length; i++)
13     {
14         for (int j = 0; j < number[0].length; j++)
15         {
16             System.out.print("Enter a number [" + i + "][" + j + "]: ");
17             number[i][j] = input.nextInt();
18         }
19         System.out.println(x: "-----");
20     }
21     for (int r[] : number)
22     {
23         for (int s : r)
24         {
25             System.out.print(s + " ");
26         }
27         System.out.println(x: "");
28     }
29
30     input.close();
31 }
32 }

```

D:\hiya kuliah\P_Daspro\java>javac Arr3.java &&
Enter the number of row: 3

3.


```
D:\hiya kuliah\P_Daspro\java>javac Arr3.java && java Arr3
Enter the number of row: 2
Enter the number of column: 3
Enter a number [0][0]: 1
Enter a number [0][1]: 2
Enter a number [0][2]: 3
-----
Enter a number [1][0]: 7
Enter a number [1][1]: 8
Enter a number [1][2]: 98
-----
1 2 3
7 8 98
```

Assignment

```
J assignmentjb91.java > assignmentjb91 > main(String[])
1  ✓ public class assignmentjb91
2    {
3      Run | Debug
4      public static void main(String[] args)
5      {
6          final String LINE = "-----";
7          char[] code = { 'A', 'B', 'D', 'E', 'F', 'G', 'H', 'L', 'N', 'T' };
8          char[][] cities = {
9              { 'B', 'A', 'N', 'T', 'E', 'N', ' ', ' ', ' ', ' ', ' ' },
10             { 'J', 'A', 'K', 'A', 'R', 'T', 'A', ' ', ' ', ' ', ' ' },
11             { 'B', 'A', 'N', 'D', 'U', 'N', 'G', ' ', ' ', ' ', ' ' },
12             { 'C', 'I', 'R', 'E', 'B', 'O', 'N', ' ', ' ', ' ', ' ' },
13             { 'B', 'O', 'G', 'O', 'R', ' ', ' ', ' ', ' ', ' ', ' ' },
14             { 'P', 'E', 'K', 'A', 'L', 'O', 'N', 'G', 'A', 'N', ' ' },
15             { 'S', 'E', 'M', 'A', 'R', 'A', 'N', 'G', ' ', ' ', ' ', ' ' },
16             { 'S', 'U', 'R', 'A', 'B', 'A', 'Y', 'A', ' ', ' ', ' ', ' ' },
17             { 'M', 'A', 'L', 'A', 'N', 'G', ' ', ' ', ' ', ' ', ' ' },
18             { 'T', 'E', 'G', 'A', 'L', ' ', ' ', ' ', ' ', ' ', ' ' },
19         };
20
21         System.out.println(LINE);
22         for (int row = 0; row < code.length; row++) {
23             System.out.printf(format: "%c | ", code[row]);
24             for (int col = 0; col < cities[row].length; col++) {
25                 System.out.printf(format: " %c |", cities[row][col]);
26             }
27             System.out.print(s: "\n");
28             System.out.println(LINE);
29         }
30     }
```

1.

```
D:\hiya kuliah\P_Daspro\java>javac assignmentjb91.java && java assignmentjb91
```

```
-----
| A |   | B | A | N | T | E | N |   |   |   |   |
-----
| B |   | J | A | K | A | R | T | A |   |   |   |
-----
| D |   | B | A | N | D | U | N | G |   |   |   |
-----
| E |   | C | I | R | E | B | O | N |   |   |   |
-----
| F |   | B | O | G | O | R |   |   |   |   |
-----
| G |   | P | E | K | A | L | O | N | G | A | N |
-----
| H |   | S | E | M | A | R | A | N | G |   |   |
-----
| L |   | S | U | R | A | B | A | Y | A |   |   |
-----
| N |   | M | A | L | A | N | G |   |   |   |
-----
| T |   | T | E | G | A | L |   |   |   |   |
-----
```

```

J assignmentjb92.java
1  import java.util.Scanner;
2  public class assignmentjb92
3  {
4      public static void main(String[] args)
5      {
6          Scanner input = new Scanner(System.in);
7
8          System.out.print("Insert the number of row: ");
9          int row = input.nextInt();
10         System.out.print("Insert the number of column: ");
11         int col = input.nextInt();
12         int[][] numbers = new int[row][col];
13
14         // store the variable ahead of time so we don't need to calculate it on demand
15         int minValue = Integer.MAX_VALUE;
16         int minValueAmount = 0;
17         String minValuePosition = "";
18         final int MAX_NUM = 50;
19         boolean isBigNumberFound = false;
20
21         for (int r = 0; r < numbers.length; r++)
22         {
23             for (int c = 0; c < numbers[r].length; c++)
24             {
25                 System.out.printf("Insert the number for row %d and column %d: ", r, c);
26                 int inputValue = input.nextInt();
27                 numbers[r][c] = inputValue;
28
29                 if (inputValue <= minValue)
30                 {
31                     // reset since the max number changed
32                     if (inputValue != minValue)
33                     {
34                         minValueAmount = 0;
35                         minValuePosition = "";
36                     }
37
38                     minValue = inputValue;
39                     if (inputValue == minValue)
40                     {
41                         minValuePosition += String.format("%d -> [row: %d, col: %d]\n", minValueAmount + 1, r, c);
42                         minValueAmount++;
43                     }
44                 }
45
46                 if (inputValue > MAX_NUM)
47                 {
48                     isBigNumberFound = true;
49                 }
50             }
51         }
52
53         int chosenMenu;
54
55         while (true)
56         {
57             while (true)
58             {
59                 System.out.println("Menu:");
60                 System.out.println("1. Display MIN Value");
61                 System.out.println("2. Display MIN Value & Amount");
62                 System.out.println("3. Array conditions");
63                 System.out.print("Choose which menu to open (1-3): ");
64                 chosenMenu = input.nextInt();
65                 if (chosenMenu >= 1 && chosenMenu <= 3) {
66                     break;

```

2.

```

67         }
68         System.out.println(x: "Please insert the menu number correctly!");
69     }
70
71     switch (chosenMenu)
72     {
73         case 1:
74             System.out.printf(format: "The MIN value is: %d\n", minValue);
75             break;
76         case 2:
77             System.out.printf(format: "The MIN value is: %d\n", minValue);
78             System.out.printf(format: "The MIN value amount is: %d\n", minValueAmount);
79             System.out.printf(format: "The MIN value position is: \n%s\n", minValuePosition);
80             break;
81         case 3:
82             System.out.println(isBigNumberFound ? "FOUND" : "NOT FOUND");
83             break;
84     }
85
86     System.out.print(s: "Do you want to choose another menu? (y/n): ");
87     boolean repeatMenu = input.next().equalsIgnoreCase(anotherString: "y");
88     if (!repeatMenu)
89
90     {
91         break;
92     }
93 }
94
95     input.close();
96 }
97 }

```

```
D:\hiya kuliah\P_Daspro\java>javac assignmentjb92.java && java assignmentjb92
Insert the number of row: 3
Insert the number of column: 2
Insert the number for row 0 and column 0: 1
Insert the number for row 0 and column 1: 2
Insert the number for row 1 and column 0: 3
Insert the number for row 1 and column 1: 5
Insert the number for row 2 and column 0: 6
Insert the number for row 2 and column 1: 7
Menu:
1. Display MIN Value
2. Display MIN Value & Amount
3. Array conditions
Choose which menu to open (1-3): 1
The MIN value is: 1
Do you want to choose another menu? (y/n): y
Menu:
1. Display MIN Value
2. Display MIN Value & Amount
3. Array conditions
Choose which menu to open (1-3): 2
The MIN value is: 1
The MIN value amount is: 1
The MIN value position is:
1 -> [row: 0, col: 0]

Do you want to choose another menu? (y/n): y
Menu:
1. Display MIN Value
2. Display MIN Value & Amount
3. Array conditions
Choose which menu to open (1-3): 3
NOT FOUND
Do you want to choose another menu? (y/n): n

D:\hiya kuliah\P_Daspro\java>
```