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Batch Code: ANP-C6315

Lab Assignment – 8

Question 1: Write a Java program that creates and prints a 2D array in the following format:

input :

1
23
14
21
5
14

output :

01 23 14
21 05 13

Program:

```
public class TwoDArrayFormat {  
    public static void main(String[] args) {  
        // Input array  
        int[][] inputArray = {  
            {1},  
            {23},  
            {14},  
            {21},  
            {5},  
            {14}  
        };  
  
        // Find the maximum number of digits in the array  
        int maxDigits = 0;  
        for (int i = 0; i < inputArray.length; i++) {  
            for (int j = 0; j < inputArray[i].length; j++) {  
                int num = inputArray[i][j];  
                int digits = (int) Math.log10(num) + 1;  
                maxDigits = Math.max(maxDigits, digits);  
            }  
        }  
    }  
}
```

```

    }
}

// Print the formatted array
for (int i = 0; i < inputArray.length; i++) {
    for (int j = 0; j < inputArray[i].length; j++) {
        // Format the number with leading zeros
        String formattedNumber = String.format("%0" + maxDigits + "d",
inputArray[i][j]);
        System.out.print(formattedNumber + " ");
    }
    System.out.println(); // Move to the next line for the next row
}
}
}

```

Question 2: Write a program to sort an array elements. Read elements and display sorted array elements.

INPUT:

```
import java.util.Arrays;
```

```
import java.util.Scanner;
```

```
public class SortArray {
```

```
    public static void main(String[] args) {
```

```
        // Create a Scanner object to read input from the user
```

```
        Scanner scanner = new Scanner(System.in);
```

```
        // Prompt the user to enter the number of elements in the array
```

```
        System.out.print("Enter the number of elements in the array: ");
```

```
        int n = scanner.nextInt();
```

```
        // Create an array to store the elements
```

```
        int[] arr = new int[n];
```

```
        // Prompt the user to enter the elements
```

```
System.out.println("Enter the elements of the array:");

for (int i = 0; i < n; i++) {

    arr[i] = scanner.nextInt();

}

// Sort the array using Arrays.sort()

Arrays.sort(arr);

// Display the sorted array

System.out.println("Sorted array elements:");

for (int i = 0; i < n; i++) {

    System.out.print(arr[i] + " ");

}

// Close the Scanner

scanner.close();

}
```

OUTPUT:

Enter the number of elements in the array: 5

Enter the elements of the array:

3 1 5 2 4

Sorted array elements:

1 2 3 4 5