

Section, Name and ID#

Problem 2: Write a Java method `public static double[] mean(double[] data)` that takes as its argument an array of data points `double[] data`, and returns a two-element array – the first element being the mean value of the data points and the second element being the standard deviation. The standard deviation  $\sigma$  of  $n$  numbers  $a_i$  is computed as:

$$\sigma = \sqrt{\frac{\sum_{i=0}^{n-1} (a_i - \text{mean})^2}{n}}$$

~~`public static double[] mean(double[] data)`~~

I will write a program, which will output the following table:

| A | B | C | D | E | F |
|---|---|---|---|---|---|
| 5 | 4 | 3 | 2 | 1 | 0 |

```
public static void main(String[] args)
{
    char[] letters = {'A', 'B', 'C', 'D', 'E', 'F'};
    int[] nums = {5, 4, 3, 2, 1, 0};

    for (int i = 0; i < letters.length; i++) {
        System.out.print(letters[i] + " ");
    }
    System.out.println();

    for (int n = 0; n < nums.length; n++) {
        System.out.print(nums[n] + " ");
    }
}
```

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Use the backside, if needed

Problem 2 of 4

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**Problem 4:** Implement the following Java methods that swap element values between two 2D integer arrays of the same size `int[][] a` and `int[][] b`:

1. `public static void swap(int[][] a, int[][] b, int row, int col)` – swaps element values from the specified row `int row` and column `int col`;
2. `public static void swapCol(int[][] a, int[][] b, int col)` – swaps all element values from the specified column `int col`;
3. `public static void swapRow(int[][] a, int[][] b, int row)` – swaps all element values from the specified row `int row`. Get a bonus, if `swapRow()` performs faster than `swapCol()`.

```

public static void swap(int[] a, int[] b, int row, int col) {
    for (col = 0; col < b.length; col++) {
        System.out.print(a[col] + " ");
        for (row = 0; row < b[col]; row++) {
            System.out.println(b[col][row] + " ");
        }
    }
}

```

```

public static void swap(int[] a, int[] b, int row, int col) {
    for (col = 0; col < b.length; col++) {
        for (row = 0; row < b[col]; row++) {
            System.out.println(b[col][row] + " ");
        }
    }
}

```