Arrays Assignments

Exercise 1 — Array Sum

Examine the following program:

```
class Exercise1
{
  public static void main ( String[] args )
  {
    int[] val = {0, 1, 2, 3};

    sum = System.out.println( "Sum of all numbers = " + sum );

  }
}
```

Complete the assignment statement so that it computes the sum of all the numbers in the array.

Exercise 2 — Two Arrays

Examine the following program:

```
class Exercise2
{
  public static void main ( String[] args )
  {
    int[] val = {13, -4, 82, 17};
    int[] twice;

    System.out.println( "Original Array: "
        + val[0] + " " + val[1] + " " + val[2] + " " + val[3] );
```

```
    // Construct an array object for twice.

    // Put values in twice that are twice the
    // corresponding values in val.


    System.out.println( "New Array: "
        + twice[0] + " " + twice[1] + " " + twice[2] + " " + twice[3] );
  }
}
```

Complete the program so that a new array `twice` is constructed. Now copy values from `val` to `twice`, but make the values in `twice` double what they are in `val`.

Exercise 3 — Three Arrays

Examine the following program:

```
class Exercise3
{
  public static void main ( String[] args )
  {
    int[] valA   = { 13, -22,  82,  17};
    int[] valB   = {-12,  24, -79, -13};
    int[] sum    = {  0,   0,   0,   0};

    // Add values from corresponding cells of valA and valB
    // and put the result in the corresponding cell of sum.


    System.out.println( "sum: "
        + sum[0] + " " + sum[1] + " " + sum[2] + " " + sum[3] );
  }
}
```

Complete the program with four assignment statements so that each cell of `sum` contains the sum of the corresponding cells in `valA` and `valb`. Ie., add cell zero of `valA` to cell zero of `valB` and put the result in cell zero of `sum`, and so on.

2

Exercise 4 — Same Sum

Examine the following program:

```
class Exercise4
{
  public static void main ( String[] args )
  {
    int[] valA   = { 13, -22,  82,  17};
    int[] valB   = {  0,   0,   0,   0};

    // Put values into valB so that the sum of the values
    // in corresponding cells of valA and valB is 25.

    System.out.println( "valA: "
        + valA[0] + " " + valA[1] + " " + valA[2] + " " + valA[3] );

    System.out.println( "valB: "
        + valB[0] + " " + valB[1] + " " + valB[2] + " " + valB[3] );

    System.out.println( "sum:  "
        + (valA[0]+valB[0]) + " " + (valA[1]+valB[1]) + " "
        + (valA[2]+valB[2]) + " " + (valA[3]+valB[3]) );
  }
}
```

Complete the program with four assignment statements that put values into valB so that the sum of corresponding cells in valA and valB is 25.

Exercise 5 — Reverse Order

Examine the following program:

```
class Exercise5
{
  public static void main ( String[] args )
  {
    int[] val = {0, 1, 2, 3};
    int temp;
```

```
    System.out.println( "Original Array: "
        + val[0] + " " + val[1] + " " + val[2] + " " + val[3] );

    // reverse the order of the numbers in the array


    System.out.println( "Reversed Array: "
        + val[0] + " " + val[1] + " " + val[2] + " " + val[3] );
    }
}
```

Complete the program so that the numbers in the array appear in reversed order. You will need to use the variable `temp` to do this.

Note: this is a harder exercise than you might guess. I sometimes put it on a midterm examination, and some students get the question wrong.