

Part I: Multiple Choice (10 questions / 4 points each)

- 1) How would you check to see if 2 arrays contained the same sequence of values?
- 2) How would you accumulate all the elements of an array?
- 3) Are arrays passed by value or by reference?
- 4) How would you determine the minimum and maximum values of an array?
- 5) How would you handle a situation where an array element is the index of another array? (i.e. `myArray[ary[j]]`)
- 6) How would you determine if the elements of an array were in ascending or descending order?
- 7) What's happening in these 3 lines of code?

```
int[] a = {1, 1, 2, 3, 5, 8};
int[] b;
b = a;
```
- 8) How would you determine if an element of an array was repeated in that array?
- 9) How would you reverse the elements in an array?
- 10) Be able to give an example of each of the following Exceptions.
ClassCastException
ArrayIndexOutOfBoundsException
NullPointerException
ArithmeticException

Sample Questions:

- 1) What will be printed by the following code segment?

```
int[] a = {8, 3, 5, 10, 6};
int sum = 0;
int j = 0;

while (j < a.length)
{
    sum += a[j];
    j++;
}
System.out.println(sum);
```

- | | |
|-------|--------------------------------|
| A) 32 | D) An infinite loop will occur |
| B) 26 | E) A run-time error will occur |
| C) 16 | |

- 2) When method main has run to completion, what is the value of `ary[3]`?

```
public static void main(String[] args)
{
    int[] b = {2, 5, 1, 0, 2, 3, 4, 3};
    int[] ary = new int[6];

    for (int i = 0; i < b.length; i++)
    {
        ary[b[i]] = 2 * i + 3;
    }
}
```

- | | | | | |
|------|-------|-------|-------|-------|
| A) 3 | B) 11 | C) 13 | D) 15 | E) 17 |
|------|-------|-------|-------|-------|

3) What will be outputted by the following code segment?

```
public void write()
{
    int[] ary = {2, 4, 6, 8};
    doSomething(ary);
    System.out.println(ary[1] + " " + ary[2]);
}

private void doSomething(int[] b)
{
    int[] c = b;

    for (int j = 0; j < c.length; j++)
    {
        c[j] = Math.Pow(j, 2);
    }
}
```

- A) 0 0
- B) 1 4
- C) 4 6
- D) 4 16
- E) 16 36

Part II: Free Response (4 questions / 10 points each)

1) Given an array of Strings where each String is just a single letter, write a listToString method that will create and return a single String from any sequence of letters in the array. For example:

```
String[] word = {"c", "o", "m", "p", "u", "t", "e", "r"};
String newWord = listToString(3,5);
```

In this example newWord would contain the word put.

- 2) Given an array of integer test scores, write a method that will find the average of all the scores in the array.
- 3) Given a filled array of integers in ascending order, write an insert method that will first resize the array and then place the integer sent to it in its proper position.
- 4) Given a filled array of integers, write a method called rotate which moves each element of the array one position to the right and the last element to position 0.

Java Concepts Review Assignment:

Pages 325 - 327

Exercises: R7.6 - R7.13, R7.15, R7.16(a - c),
R7.17 (a - e)