

Fundamentals of Programming 1

Exercise sheet 8 – 10%

***** READ THE QUESTIONS CAREFULLY *****
***** NAME YOUR FILES Question1.java etc *****

Question 1

Write a Java program that declares the array shown below. Your Java program should then print the array using **5 separate System.out.printf statements**. Your screenshot should look like the one shown below.

```
int numbers[] = new int[5];
numbers[0] = 20;
numbers[1] = 30;
numbers[2] = 40;
numbers[3] = 50;
numbers[4] = 60;
```

```
numbers[0] = 20
numbers[1] = 30
numbers[2] = 40
numbers[3] = 50
numbers[4] = 60
```

Question 2

Use the data list given below to declare and initialise an integer array. Then write **individual for loops** to solve each of the following. NOTE: Write **one program** with **two separate** for-loops.

Data list: {2, 4, 6, 9, 5, 4, 5, 7, 12, 15, 21, 32, 45, 5, 6, 7, 12}

- Compute and print the mean (average) of all elements.
- Print all elements that are greater than the mean.

```
i) The mean of elements is 11.59
ii) Values greater than 11.59
12 15 21 32 45 12
```

Question 3

Write a program that reads 5 integer values from the keyboard and prints them in reverse order. You should use an **array** and **2 separate for loops** to solve this problem. Your screenshot should use the test case shown below.

```
Enter 5 integer values: 1 2 3 4 5
Numbers in reverse are: 5 4 3 2 1
```

Question 4

Write a program that declares an integer array of size 100. Write for loops to carry out the following operations:

- Initialise the array with random values between 1 – 20
- Print all values in the array

```
Array values are:
10 20 2 11 2 3 10 5 9 9 2 2 15 1 6 1 20 18 1 11 9 9 4 15 20 3 15 8
10 2 20 19 5 11 10 19 5 8 5 16 10 20 20 3 19 1 3 8 13 4 11 19 19 5
18 14 15 6 4 16 3 16 20 20 9 9 3 17 2 15 9 13 14 6 18 3 1 5 11 6 3
9 15 5 9 4 11 2 5 15 18 15 14 18 13 6 9 8 20 8
```

Deliverables

Place all your files in a folder called **Week8**. Zip the Week8 folder and upload the zip file using the Week8 upload link for your group on MOODLE.

Check the upload link on MOODLE for your group deadline

Plagiarism

This assessment should be an individual piece of work. Any evidence of plagiarism will result in a grade of zero for all parties involved and will trigger the Universities plagiarism policy 3AS08 (see course coordination page).