**Lab sheet 1**

Please complete all the problems described below.

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| **Example Task 1** | |
| **Task** | Write a Java script *LargeNumber.java* which takes two integers and outputs the larger of two numbers |
| Example input | 2  3 |
| Example output | 3 |
| Example input | 8  8 |
| Example output | 8 |
| Solution |  |
| Tip | You can use scanner class of any other input mechanism |

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| **Example Task 2** | |
| **Task** | Write a Java script *SmallerNumber.java* which takes two integers and outputs the smaller of two numbers |
| Example input | 9  13 |
| Example output | 9 |
| Example input | 21  1 |
| Example output | 1 |
| Solution |  |
| Tip | You can use scanner class of any other input mechanism |

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| **Example Task 3** | |
| **Task** | Write a Java script *LargeNumberMilli.java* which takes two integers and outputs the larger of two numbers along with the elapsed time in milli seconds (1/1000 seconds) after the user enter the last input. |
| Example input | 9  13 |
| Example output | 13  0 (this is in milliseconds) |
| Example input | 21  1 |
| Example output | 21  0 (this is in milliseconds) |
| Solution |  |
| Note | The time it takes to run your code all depends on your algorithm, CPU speed etc. So, don’t expect the same result as in the output here. |

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| **Example Task 4** | |
| **Task** | Write a Java script *LargerNumberNano.java* which takes two integers and outputs the larger of two numbers along with the elapsed time in nano seconds (1/1,000,000,000 seconds) after the user enter the last input. |
| Example input | 9  13 |
| Example output | 13  320 (nano seconds) |
| Example input | 21  1 |
| Example output | 21  360 (nano seconds) |
| Solution |  |
| Note |  |

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| **Example Task 5** | |
| **Task** | Write a Java script *LargestNumber.java* which creates an array of 10 integers and outputs the largest of the numbers along with the elapsed time in nano seconds. |
| Example array | numbers = {2,5,7,3,4,9,22,11,15,14} |
| Example output | 22  350 |
| Solution |  |
| Note |  |

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| **Example Task 6** | |
| **Task** | Write a Java script *LargestNumberArray.java* which creates an array of 1000 integers and outputs the largest of the numbers along with the elapsed time in nano seconds (1/1,000,000,000 seconds). Use random number generator to generate an array between 0 and 800. |
| Example array | numbers = {2,5,7,3,4,9,22,11,15,14,…} |
| Example output | 570  16234 |
| Solution |  |
| Tip | You can use the following code to generate an array of random integers  import java.util.Random;  …  Random random = new Random();  //generates random numbers between 10 and 100000  int [] numbers = random.ints(1000, 0,8000).toArray(); |