

## CS4112 Lab Exercises 1

- Recall the following question from tutorial set 2. In this lab you should implement and test your solution to the following questions. Given  $A = \{1, 2, 3\}$  and  $B = \{2, 4, 5\}$ 
  1. Write a java code segment that will store these sets as arrays
  2. Extend this code segment to output the union of these sets
  3. Write a separate java code function that will take the 2 arrays as parameters and output the intersection of these sets
  4. Extend this function such that  $A \cap B$  is stored in a separate array
- Test your program with different values for the sets  $A$  and  $B$ . For example, test your program where  $A$  and  $B$  contain the same elements.
- Try to handle the situation where either  $A$  or  $B$  contains duplicate elements, e.g.  $A = \{1, 1, 2\}$ . Remember duplicate elements can be removed from the set so in the example above  $A = \{1, 2\}$ .
- As an exercise for the next lab try to adapt your java application program so that the arrays  $A$  and  $B$  are requested as input from the user.
- **NOTE:** Please keep a copy of all your lab work. This will become a portfolio which you will be asked to submit at the end of the semester. To track your performance I may also attend the labs from time to time to check any or all of this work.