

Please fill in your Student Number and Name.

Student Number : _____

Name:

Student Number:

University of Cape Town ~ Department of Computer Science
Computer Science 1015F ~ 2009
Test 3

Question	Max	Mark	Internal	External
1	7			
2	13			
3	10			
TOTAL	30			

Marks : 30
Time : 40 minutes
Instructions:

- a) Answer all questions.
- b) Write your answers in the space provided.
- c) Show all calculations where applicable.

Question 1 [7]

Write Java code for the following - assume all this code is located within a single method:

- a) Set a 1-dimensional array called “val” to the following values (2,6,-1,3,7,4) [1]

- b) Find and print the smallest value [2]

- c) Find and print how many elements have this smallest value [2]

d) Print out (on one line) every second value in the original array. (for this example: 2 -1 7) [2]

Question 2 [13]

Write a Java code that uses a 1-dimensional array called "val" that contains the following values (6,7,-1,0,1,-5,2). Assume this array has been created for you.

a) Write a loop that processes each value in the array by the following formula: [5]

- i. all zeros have 5 added to them,
- ii. all negatives are swapped to positives,
- iii. all positives are multiplied by 3,

and prints the final values on 1 line. i.e. 6 7 -1 0 1 -5 2 becomes 18 21 1 5 3 5 6

b) Write Java code that prints out these values in the opposite order i.e. 6 5 3 5 1 21 18 [2]

c) Write Java code to set the elements of a 2-dimensional array to the values indicated below. Two loops must be used sensibly and no value may be read in. Define all variables used. The code should work for any square array. [6]

10	0	0	0	0
1	10	1	1	1
1	2	10	2	2
1	2	3	10	3
1	2	3	4	10

```
public static void main (String [ ] args)
{ int max = 5;
```
