Programming – DT228/1

Lab 13 – Tuesday, January 29th, 2013

Note: You are expected to finish all programmes in your own time if you do not get these done during the lab session. This is your own responsibility.

Dynamic Memory Allocation (DMA)

Remember: Use Symbollic names in your programs. Do not hard-code.

Write separate programs to:

1.   Write the 2 programs covered in lecture class on both malloc() and calloc(). After you run these programs, change the size of the allocated memory to be smaller than required (i.e. remove the `signof(int)` and replace it with a hardcode integer number, as we discussed in lecture class). Compile and run the changed programs. What happens?
2.   Chapter 9 – Q9, Q10, Q11
3.   Write a program that uses dynamic memory allocation to allocate memory for 5 floating-point numbers. You can use either malloc() or calloc().

        After memory has been allocated for the 5 float numbers, enter these numbers. Calculate the average of these numbers and store this average in another allocated memory block. Display all of the 5 float values on the screen and the average. (Hint: you will need to use 2 float pointers, one pointing to the block of memory storing the 5 floating-point numbers, and one pointing to the block of memory storing the average of the 5 numbers).

Note: Be very careful with your use of pointers in these questions. Try not to exceed the bounds of the arrays when moving the pointers.