MGANI, MATEI Q 2010-04-0722

UNIVERSITY OF DAR ES SALAAM

COMPUTERSCIENCE AND ENGINEERING DEPARTMENT

IS 136: C PROGRAMMING

TEST II – June 2011

14·5

45 min

Instructions: Answer **ALL** Questions

A. Write the code fragment for each of the following requirement

1. Define a structure named **kituo** which has as its attribute as **salary** of type **float**, and a pointer link to hold an address of the next element, call it **link** *(2 points)*
   a. Declare a pointer variable called **matumizi**, whose data type is the structure you created above. *(1 point)*
   b. Allocate a computer memory space for the variable **matumizi** you have just declared *(1 point)*
   c. If the variable holding the address of the first element is called **thehead**, define a variable called **moving** and use it to move from the beginning of the list to the end, while multiplying the **salary** value by two for each node. *(3 points)*

B. The following program intends to write to a file called **Input.txt** as long as the user has not entered a character to represent the end of file. However, the lines of the program have been mixed. You are required to re-arrange the lines so the program does what is intended, and for each line write also what it does. *(5 points)*

```
1.   main()
2.   {
3.   char c;
4.   FILE *f1;
5.   #include<stdio.h>
6.   putc(c,f1);
7.   f1=fopen("Input.txt","w");
8.   fclose(f1);
9.   }
10.  while((c=getchar())!=EOF)
```

C. For each statement in the list below, say whether they are TRUE or FALSE. Write your answers in Capital Letters **(T for True and F for False)** *(0.5 points each)*

	FILE functions cannot work without including the **string.h** file
	While Stacks apply LIFO, Queues apply FIFO
	In linked lists the memory address of the last node is always **NULL**
	Malloc function is the one that controls the entire computer memory and not the Operating System
	When accessing members, arrays are more efficient than linked lists
	Initialization means giving a variable some value while declaration means specifying the amount of memory to be reserved for a variable