The Academic College of Tel-Aviv-Yaffo
121113 Computer Structure and the 8086 Assembly Language
Summer 2002

Home Assignment No. 3

Due date: None

1. Declare a binary tree with at least 9 nodes. Each node should contain a Char (0-255) value and 2 pointers.

   Write and run the DFS algorithm on the tree. Print the nodes' values while you are searching.

   For those of you who forgot what DFS is (shame on you!), here is a small reminder.
   DFS stands for Depth-First-Search and it is a simple preorder algorithm for binary trees. Preorder means that the tree is searched first to the depth and then other ways a sought for as you go up.

   Following is a C++-like implementation of DFS:

```
void dfs (TreeElement *t) {
  print(t->value);
  if (t->left!=null)  dfs(t->left);
  if (t->right!=null) dfs(t->right);
}
```

2. Explain – why is a NMI mechanism needed? Why not settle with a regular INT mechanism?

3. Write a program that gets an 8 digit binary number from the user and prints out the Hex representation of the number.

Have fun,

Eliav.