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# MIC0003: Computer Networking

## Assignment 6: Domain Name System

Deadline: 16 May, 2011

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The goal of the assignment is to familiarize yourselves with Internet domains and the domain lookup system.

### 1 Assignment

You are required to implement a simple console tool to look up the IP address(es) associated with a given domain name. The tool is required to work according to the DNS specifications<sup>1</sup> and protocol<sup>2</sup>.

- The tool should have a simple command line interface, similar to the *nslookup* tool.
- Only IPv4 support is required, but feel free to implement IPv6 if you wish.
- The DNS server and the domain should be command line arguments.

### 2 Notes

- You are not allowed to use any helper libraries whatsoever. You must implement the protocol yourselves.
- Your program should yield the exact same results as the *nslookup* tool (rotating domains are an exception).
- The university's DNS server is *172.30.0.1*, you can find out your home one with (*ifconfig* (Linux) or *ipconfig /all* (Windows)).

Google is your friend.

### 3 Deliverables

The programming language is not fixed (i.e. you can use whatever you like), but a compilation script **must** be provided (makefile for C/C++, ant file for Java, etc). The compilation script requirement is waived if the solution is presented in class, and strictly before the deadline.

All the source files must include your full name, user name and group identifier (the lack thereof leading to a failed assignment).

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<sup>1</sup><http://www.ietf.org/rfc/rfc1034.txt>

<sup>2</sup><http://www.ietf.org/rfc/rfc1035.txt>

The source files, compilation script and other data files should be uploaded in a single archive to the usual location (<http://www.scs.ubbcluj.ro/~labhu/laborok.php>).