

– Foundations of the Web –

Exercise 1 (Terminology):

[20 Points]

Give examples of

- a top level domain
- a subdomain
- a fully qualified domain name

all related to the University of Koblenz.

Exercise 2 (DNS Address Resolution – Client):

[80 Points]

Create a Java program based on a UDP socket that is able to send DNS requests on port 53 to name servers to retrieve IP address for domains. Your program should implement the method with the following signature

```
String resolve( String domain, String IPv4 )
```

where `domain` is the domain for which the IP address should be retrieved and `IPv4` is the IP address of the name server that is asked. The return value is the IP address for the given domain.

Use the implemented method to get the IP address for `www.uni-koblenz.de`. As name server use the server with the IP 141.26.64.1 (which is the name server of the University of Koblenz).

Hint: For an example on how to work with UDP sockets in Java, you can have a look at:

<http://systembash.com/content/a-simple-java-udp-server-and-udp-client/>