# Tutorial 4

## Question 1

A UDP segment (header + data) is represented in hexadecimal 6660 5555 8F0C. Calculate the checksum and represent it in hexadecimal.

0110 0110 0110

## Question 2

Suppose a router has 4 links, and packets are to be forwarded as follows:

| Destination address range | Link interface |
|---|---|
| 11100000 00000000 00000000 00000000<br>through<br>11100000 00111111 11111111 11111111 | 0 |
| 11100000 01000000 00000000 00000000<br>through<br>11100000 01000000 11111111 11111111 | 1 |
| 11100000 01000001 00000000 00000000<br>through<br>11100001 01111111 11111111 11111111 | 2 |
| 11100001 10000000 00000000 00000000<br>through<br>11100001 11111111 11111111 11111111 | 3 |
| otherwise | 3 |

Find the link interface for datagrams with the following destination addresses.

| |
|---|
| 11001000 10010001 01010001 01010101 |
| 11100001 01000000 11000011 00111100 |
| 11100001 10000000 00010001 01110111 |

## Question 3

Consider sending a 2400-byte datagram into a link that has an MTU of 700 bytes.

(a)     How many fragments are generated?   2380/680=4

(b)     What are the values in the fragment offset field?