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FAMCS 3/3

Lab 3

Task 1
```
32.123.211.78
00100000.01111011.11010011.01001110
```

Task 2
```
255.255.1.0          11111111.11111111.00000001.00000000      INVALID IP. INVALID MASK.
128.61.0.1           10000000.00111101.00000000.00000001      VALID IP. INVALID MASK.
192.201.255.254          11000000.11001001.11111111.11111110       VALID IP. INVALID
MASK.
214.47.8.160         11010110.00101111.00001000.10100000      VALID IP. INVALID MASK.
223.256.72.120       NOT AN ADDRESS       NOT AN ADDRESS
255.255.64.0         11111111.11111111.01000000.00000000      INVALID IP. INVALID MASK.
218.212.34.255       11011010.11010100.00100010.11111111      VALID IP. INVALID MASK.
255.253.254.0        11111111.11111101.11111110.00000000      INVALID IP. INVALID MASK.
111.111.111.111          01101111.01101111.01101111.01101111       VALID IP. INVALID
MASK.
203.181.133.64       11001011.10110101.10000101.01000000      VALID IP. INVALID MASK.
255.0.0.0            11111111.00000000.00000000.00000000      INVALID IP. VALID MASK.
```

Task 3
```
IP:                   171.81.144.120 10101011.01010001.10010000.01111000
mask:                 255.255.255.0 11111111.11111111.11111111.00000000
net address:          171.81.144.0  10101011.01010001.10010000.00000000
host part:            0.0.0.120     00000000.00000000.00000000.01111000
potential number of nodes: 254
```

Task4 - example1
```
IP:                 196.105.157.223          11000100.01101001.10011101.11011111
Mask:               255.255.254.0    11111111.11111111.11111110.00000000
Net address:        196.105.156.0    11000100.01101001.10011100.00000000
Number of nodes:    510
First IP in network: 196.105.156.1
Last IP in network:  196.105.157.254
Broadcasting address: 196.105.157.255
```

Task4 - example2
```
IP:                 185.206.219.63   10111001.11001110.11011011.00111111
Mask:               255.255.255.248          11111111.11111111.11111111.11111000
Net address:        185.206.219.56   10111001.11001110.11011011.00111000
Number of nodes:    6
First IP in network: 185.206.219.57
Last IP in network:  185.206.219.62
Broadcasting address: 185.206.219.63
```