```
1   0   1   1   0   1   0   0
128 64  32  16  8   4   2   1

128 + 0 + 32 + 16 + 0 + 4 + 0 + 0 = 180

218 = 1 1 0 1 1 0 1 0

11111111 = 255


Class A N.H.H.H
Class B N.N.H.H
Class C N.N.N.H


7 ofis, 300 host
7 network
```

10010011.01100000.00000000.00000000
                 .11111111.11111111

1 network, 2^16 = 65536 - 2 = 65534

2^13 host

```
10010011.01100000.00000000.00000000 - 147.96.0.0
10010011.01100000.00100000.00000000 - 147.96.32.0 /255.255.224.0
10010011.01100000.01000000.00000000 - 147.96.64.0 /255.255.224.0
10010011.01100000.01100000.00000000 - 147.96.96.0 /255.255.224.0
10010011.01100000.10000000.00000000 - 147.96.128.0 /255.255.224.0
10010011.01100000.10100000.00000000 - 147.96.160.0 /255.255.224.0
10010011.01100000.11000000.00000000 - 147.96.192.0 /255.255.224.0
10010011.01100000.11100000.00000000 - 147.96.224.0 /255.255.224.0


LAN-1
10010011.01100000.00100000.00000000 - 147.96.32.0 /reserved
10010011.01100000.00100000.00000001 - 147.96.32.1
10010011.01100000.00100000.00000010 - 147.96.32.2
10010011.01100000.00100000.00000011 - 147.96.32.3
.
.
10010011.01100000.00100000.11111111 - 147.96.32.255
10010011.01100000.00100001.00000000 - 147.96.33.0
10010011.01100000.00100001.00000001 - 147.96.33.1
10010011.01100000.00100001.00000010 - 147.96.33.2
10010011.01100000.00100001.00101100 - 147.96.33.44


10010011.01100000.00111111.11111111 - 147.96.63.255 / reserved b/c
```

LAN-2

10010011.01100000.01000000.00000000 - 147.96.64.0 / reserved

10010011.01100000.01000000.00000001 - 147.96.64.1
10010011.01100000.01000000.00000010 - 147.96.64.2
.
.
.
.
10010011.01100000.01000000.11111111 - 147.96.64.255
10010011.01100000.01000001.00000000 - 147.96.65.0
.
.
10010011.01100000.01000001.00101100 - 147.96.95.44

147.96.97.55

147.96.129.4

Subnet mask

10010011.01100000.00000000.00000000
11111111.11111111.11100000.00000000 → subnet mask 255.255.224.0

10010011.01100000.01000000.00000010 - 147.96.64.2   logical AND
11111111.11111111.11100000.00000000 - 255.255.224.0
10010011.01100000.01000000.00000000 - 147.96.64.0

CIDR - Classless Inter Domain Routing

147.96.0.0 /19
147.96.0.0 255.255.224.0

11111111.11111111.11100000.0000000