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RTMENT OF INFORMATION TECHNOLOGY

16IT301 – COMPUTER NETWORKS

II YEAR IV SEM

NIT 3 – INTERNETWORKING AND ROUTING

TOPIC 15 –Logical Addressing

ddress is a 32-bit address that uniquely and universal

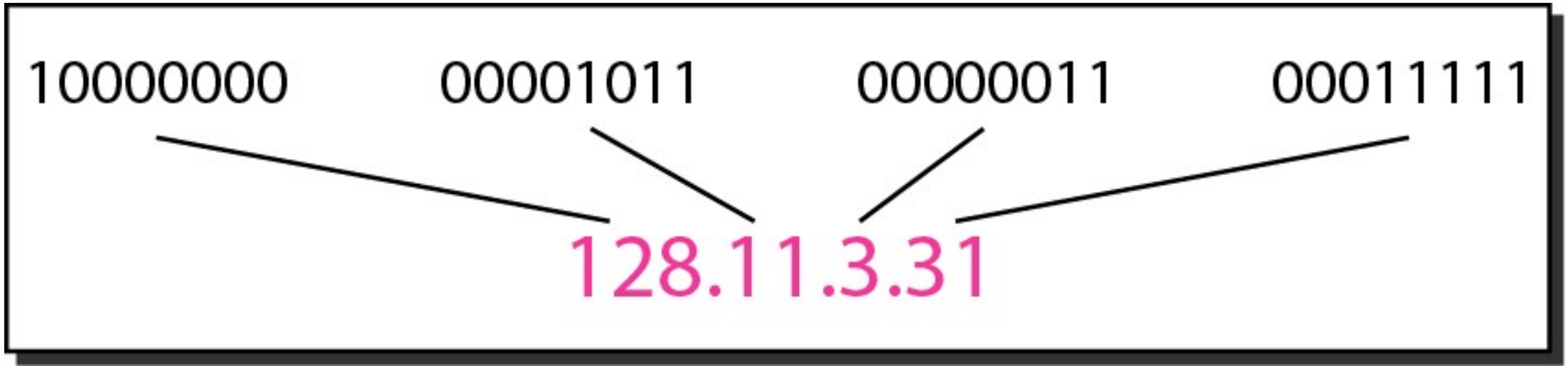
n of a device (for example, a computer or a router) to th

An IPv4 address is 32 bits long.

The IPv4 addresses are unique and universal.

The address space of IPv4 is 2^{32} or 4,294,967,296.

notation for an IPv4 address



Example 1

the following IPv4 addresses from binary notation to d
notation.

a. 10000001 00001011 00001011 11101111
b. 11000001 10000011 00011011 11111111

n

lace each group of 8 bits with its equivalent decimal number

ts for separation.

a. 129.11.11.239
b. 193.131.27.255

following IPv4 addresses from dotted-decimal notation to b

.56.45.78
.34.7.82

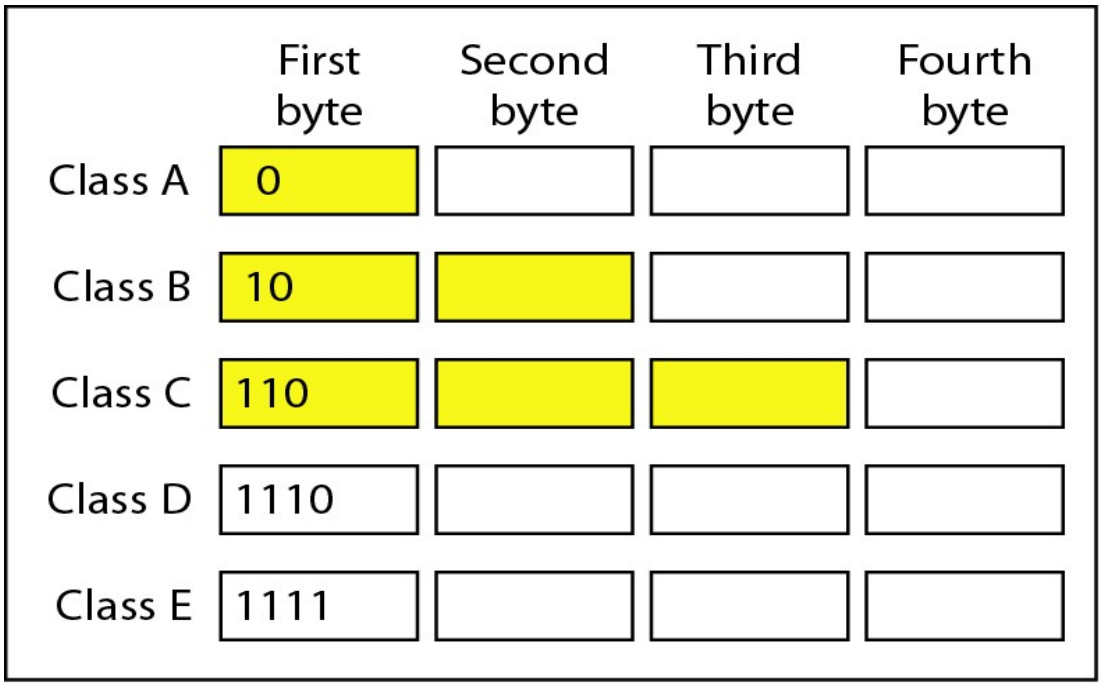
each decimal number with its binary equivalent .

01111 00111000 00101101 01001110
11101 00100010 00000111 01010010

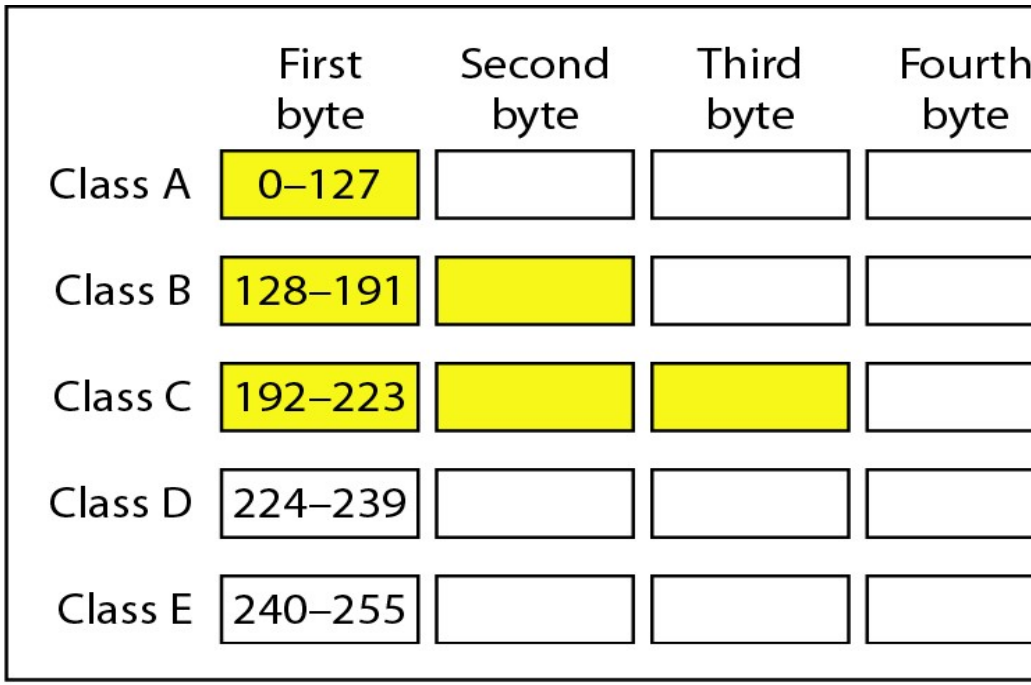
Classful Addressing

In classful addressing, the address space is divide
into five classes:
A, B, C, D, and E.

Finding the classes in binary and dotted-decimal notation



a. Binary notation



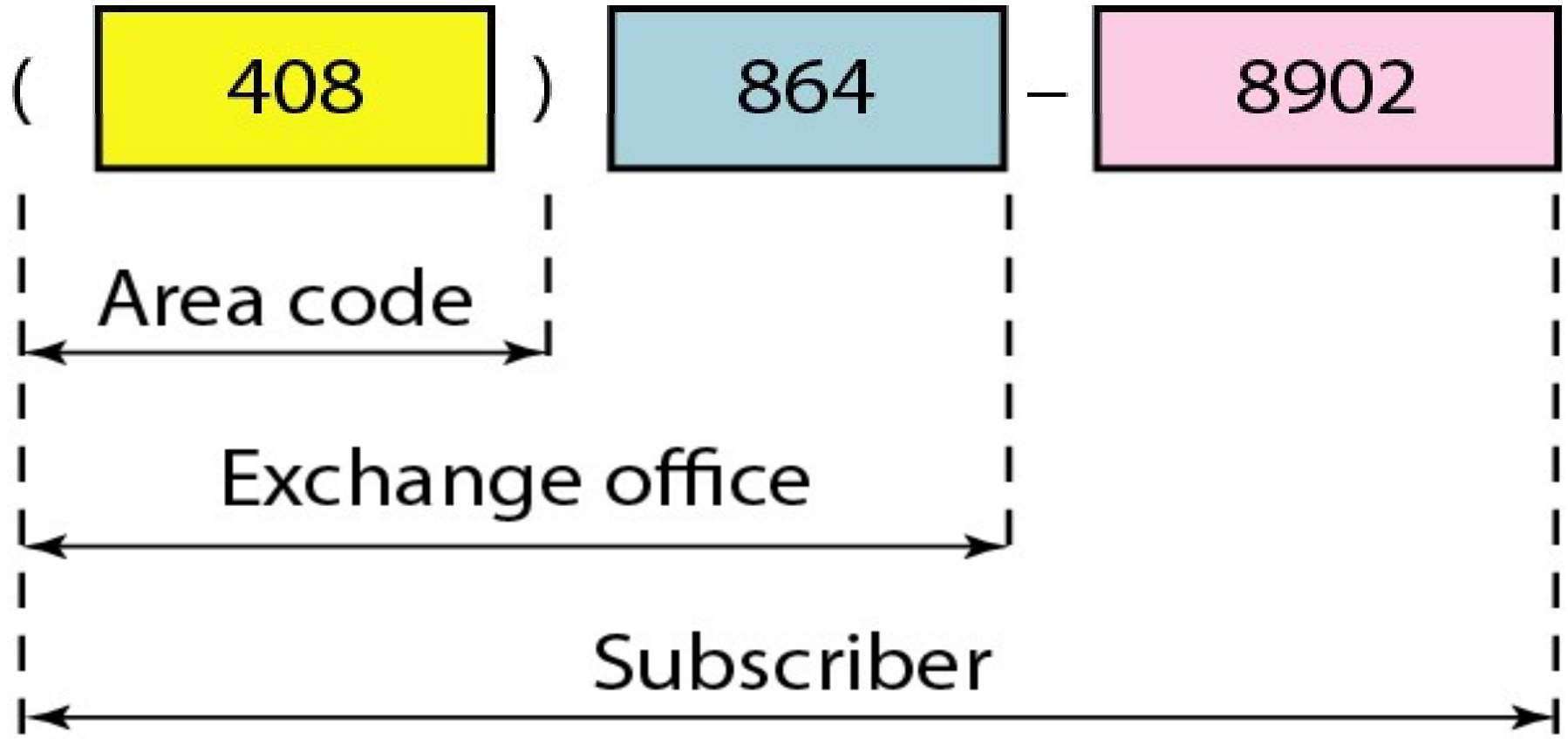
b. Dotted-decimal notation

addressing

Class	*Number of Blocks*	*Block Size*	*Application*
A	128	16,777,216	Unicast
B	16,384	65,536	Unicast
C	2,097,152	256	Unicast
D	1	268,435,456	Multicast
E	1	268,435,456	Reserved

In classful addressing, a large part of the available addresses were wasted.

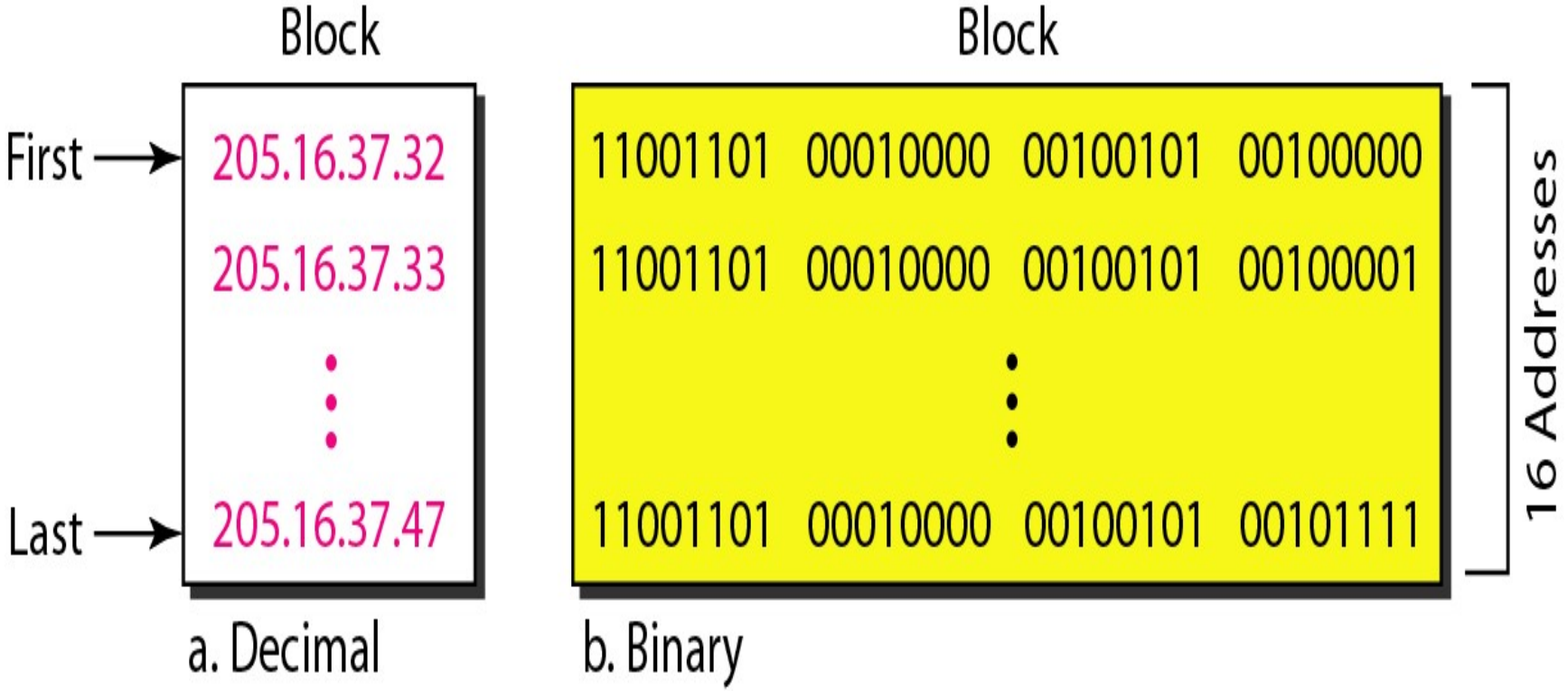
Two levels of hierarchy in an IPv4 address



Class	*Binary*	*Dotted-Decimal*	*CI*
A	**11111111** 00000000 00000000 00000000	**255**.0.0.0	/8
B	**11111111 11111111** 00000000 00000000	**255.255**.0.0	/1
C	**11111111 11111111 11111111** 00000000	**255.255.255**.0	/2

Classful addressing, which is almost obsolete, is replaced with classless addressing.

A block of 16 addresses granted to a small organization



v4 Addresses, classful addressing is replaced with _____

assless Addressing

assful Addressing

assful Advertising

assless Advertising

address in a block is used as network address that represents

ass Network

ntity

rganization

odes

ch of this is not a class of IP address?

ass E

ass C

ass D

ass F


Thank You