An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A+' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

RTMENT OF INFORMATION TECHNOLOGY

19CSB302 – COMPUTER NETWORKS

III YEAR V SEM

UNIT 3 – TRANSPORT LAYER

UDP

USER DATAGRAM PROTOCOL(

Datagram Protocol (UDP) is c
less, unreliable transport protocol. It does
the services of IP except to provide pr
ommunication instead of host-to-
tion.

ssed in this section:

Ports for UDP User

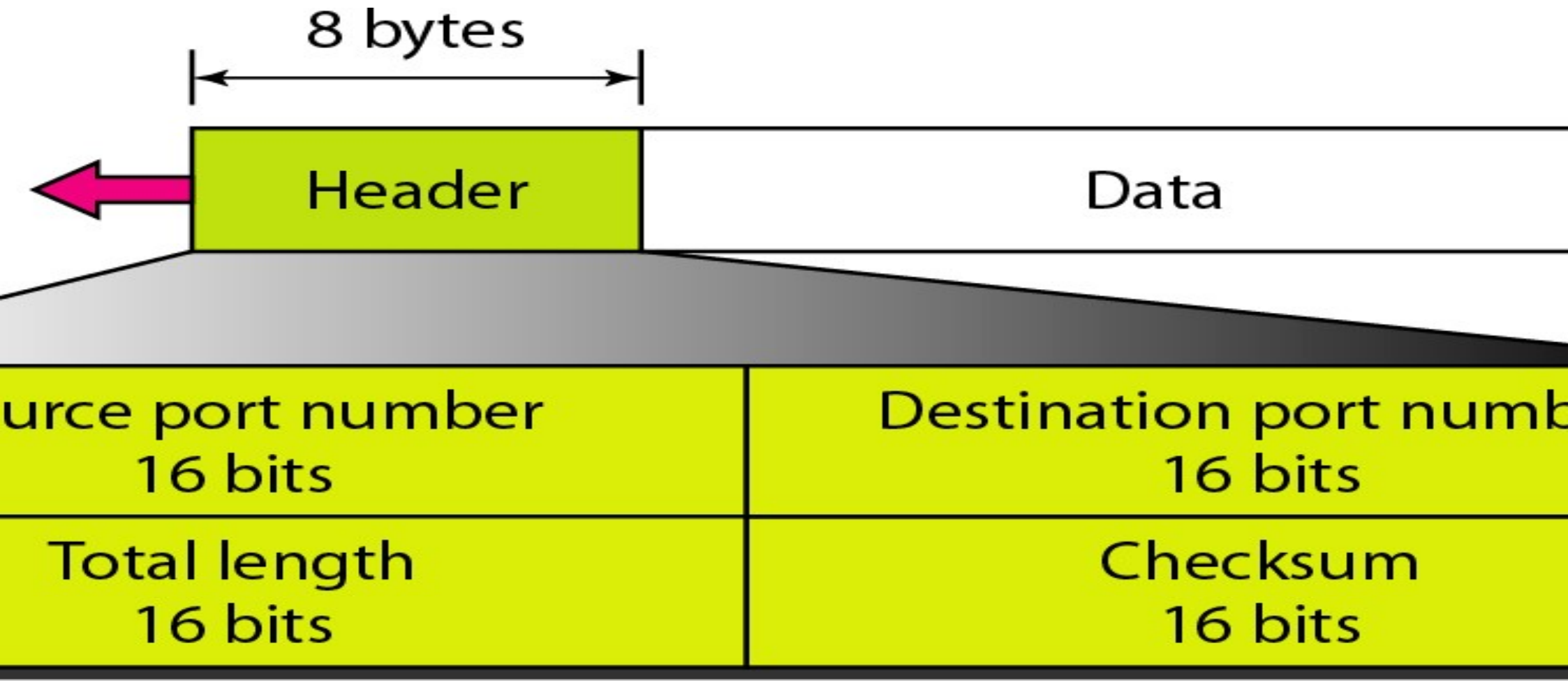
cho	Echoes a received datagram back to t
scard	Discards any datagram that is receive
sers	Active users
aytime	Returns the date and the time
uote	Returns a quote of the day
hargen	Returns a string of characters
ameserver	Domain Name Service
OOTPs	Server port to download bootstrap inf
OOTPc	Client port to download bootstrap inf
FTP	Trivial File Transfer Protocol
PC	Remote Procedure Call
TP	Network Time Protocol
NMP	Simple Network Management Protoc

the well-known ports are stored in a
. Each line in this file gives the name
-known port number. We can use the
to extract the line corresponding to
The following shows the port for FTP.
e port 21 with either UDP or TCP.

```
$ grep    ftp    /etc/services
ftp             21/tcp
```

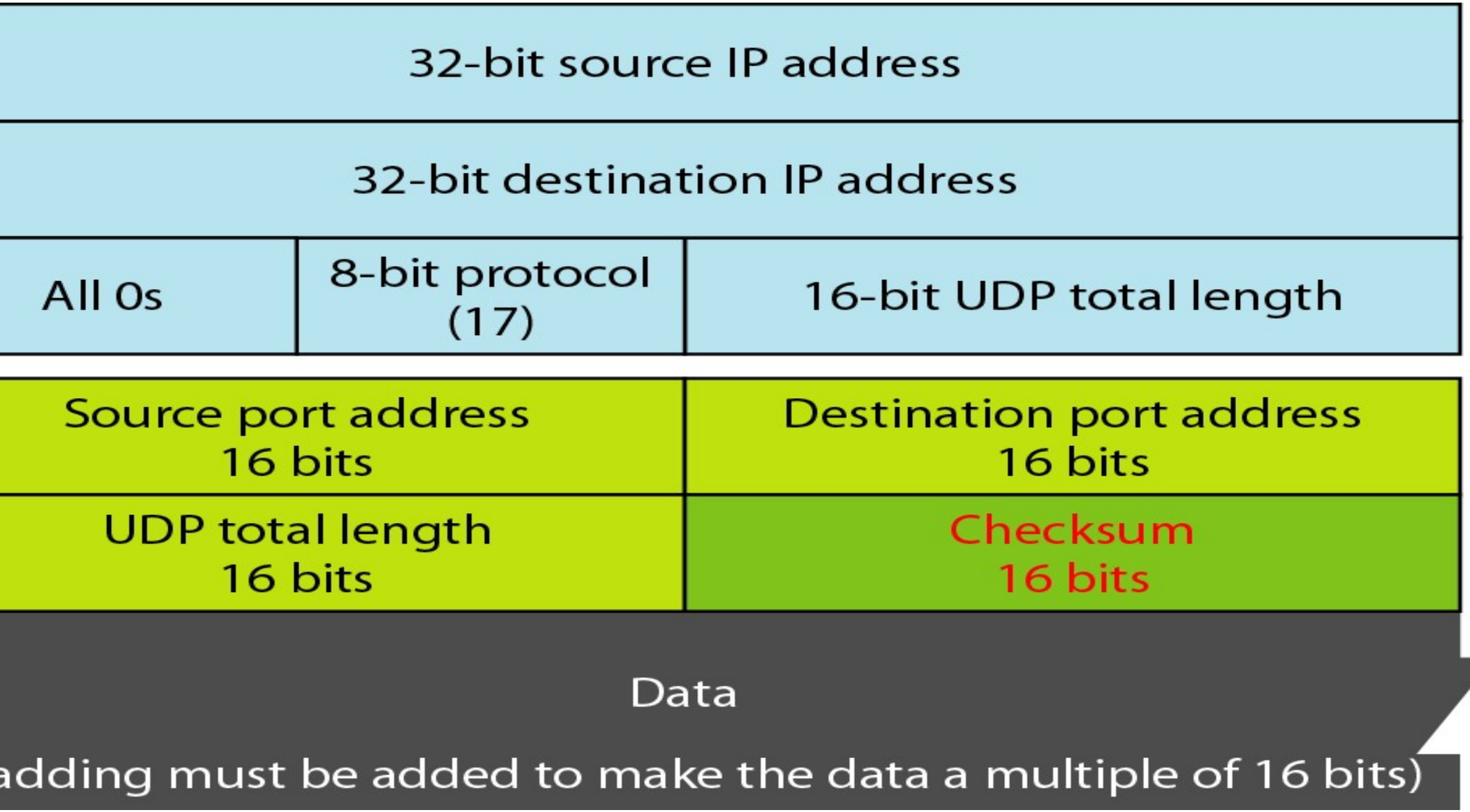
two port numbers (161 and 162), each
rpose, as we will see in Chapter 28.

```
snmp /etc/services
      161/tcp          #Simple Net  Mgr
      161/udp          #Simple Net  Mgr
      162/udp          #Traps for SNMP
```

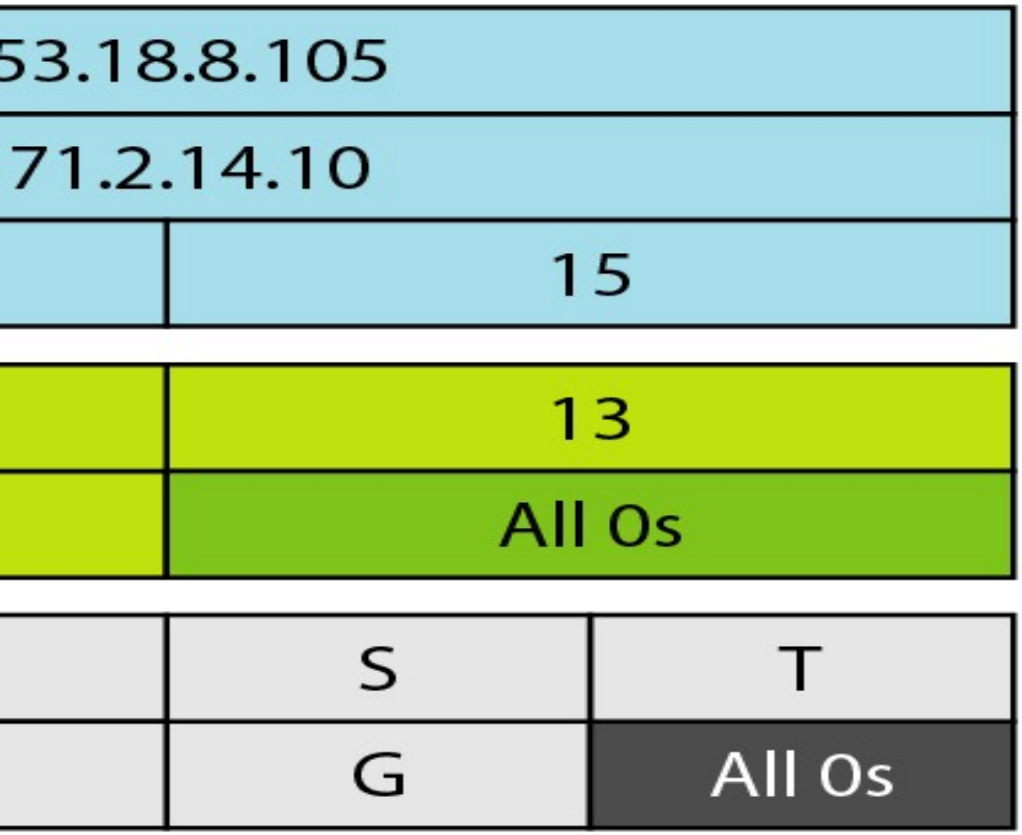

8 bytes
Header
Data
urce port number
16 bits
Destination port numb
16 bits
Total length
16 bits
Checksum
16 bits

UDP length

= IP length – IP header's length

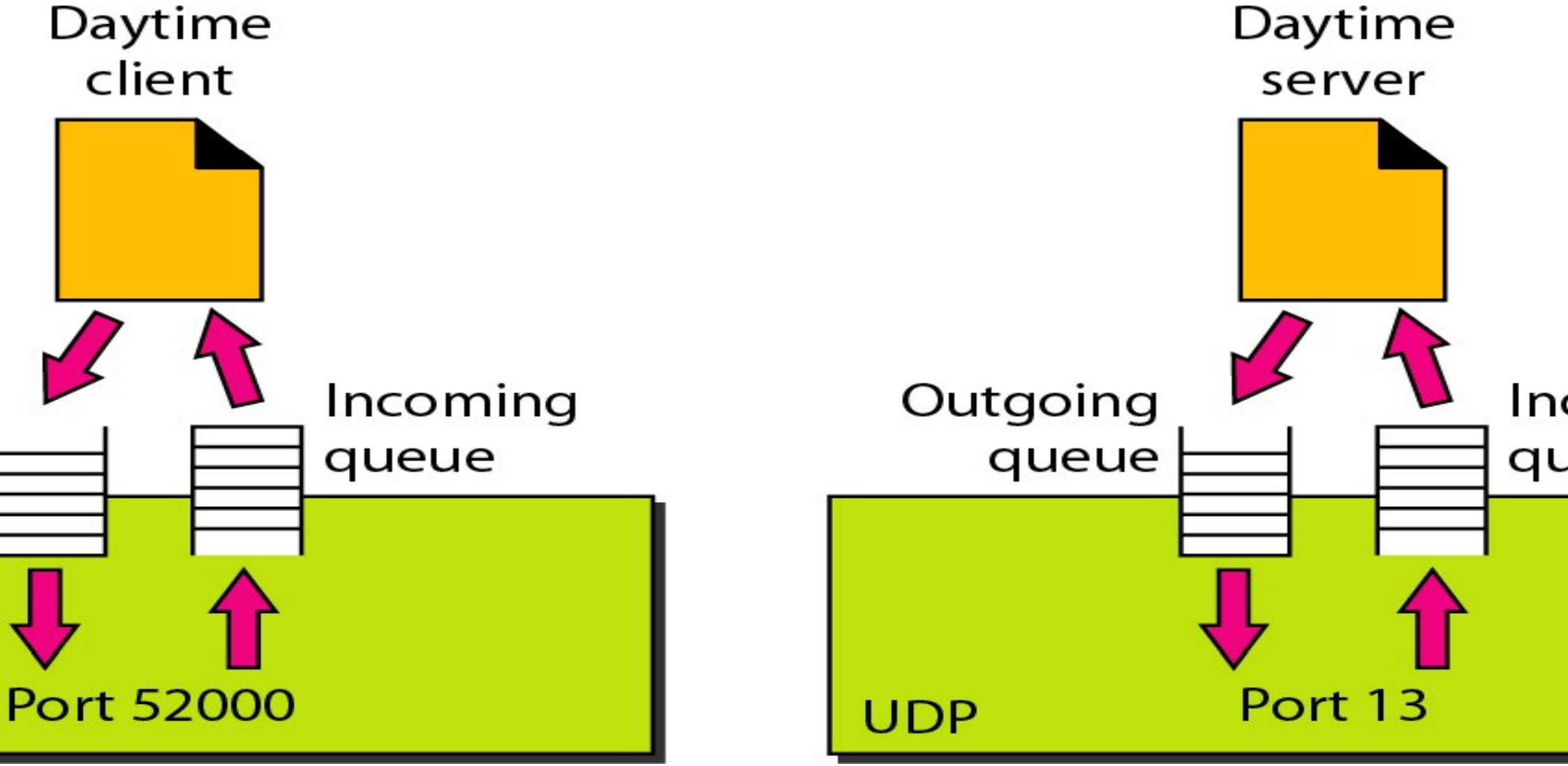

32-bit source IP address
32-bit destination IP address
All 0s
8-bit protocol (17)
16-bit UDP total length
Source port address 16 bits
Destination port address 16 bits
UDP total length 16 bits
Checksum 16 bits
Data
adding must be added to make the data a multiple of 16 bits)

1 shows the checksum calculation for a
am with only 7 bytes of data. Because th
a is odd, padding is added for checksum
header as well as the padding will be dr
agram is delivered to IP.



10011001 00010010 →
00001000 01101001 →
10101011 00000010 →
00001110 00001010 →
00000000 00010001 →
00000000 00001111 →
00000100 00111111 →
00000000 00001101 →
00000000 00001111 →
00000000 00000000 →
01010100 01000101 →
01010011 01010100 →
01001001 01001110 →
01000111 00000000 →

10010110 11101011 →
01101001 00010100 →


Daytime
client
Incoming
queue
Port 52000
Daytime
server
Outgoing
queue
UDP
Port 13


Thank You