Computer Networks 2021 Exercises - Unit 1

FAN: mcgh0008

NOTE: Each student's work unit is unique. You *must* use the work that has been generated for your FAN. If you do not, then you will fail this work unit.

NOTE: You must record your answers in the answer file EXACTLY as required, and commit and make sure your changes have been pushed to the github server, as they will otherwise not be counted.

NOTE: The topic coordinator will periodically run the automatic marking script, which will cause a file called unit1-results.pdf to be updated in your repository. You should check this file to make sure that your answers have been correctly counted. That file will contain the time and date that the marking script was last run, so that you can work out if it has been run since you last changed your answers. You are free to update your answers as often as you wish, until the deadline for the particular work unit.

1 Specify the OSI Layer to which best matches each statement

For each question, you must record your answer in the unit1-answers.txt file in your git repository. For example, if you believed that the following question best matched the Network Layer, which is layer 3, you would put the digit 3 at the end of the `rj=` *line in the file* `unit1-answers.txt`*.*

Question#	Description
`rj`	*Responsible for inter-networking*

The entry in `unit1-answers.txt` *would thus look like:*

```
# Question 'rj': Which layer best fits this statement: Responsible for inter-networking
rj=3
```

Templates for each answer are provided in `unit1-answers.txt` for your convenience.

Which network layer best matches the following descriptions?

Question#	Description
`ab`	Responsible for data compression

Question#	Description
`ac`	Performs symbol encoding and modulation

Question#	Description
`ad`	Facilitates connectionless communications between nodes on large networks

Question#	Description
`ae`	Corrects the order of received packets, if they are received out of order

Question#	Description
`af`	Allows data to be delivered over a variety of underlying network types

Question#	Description
`ag`	Ensures that data arrives in the correct order

Question#	Description
`ah`	Provides globally addressable identifiers for nodes on large networks

Question#	Description
`ai`	Provides galvanic isolation between nodes on a network

Question#	Description
`aj`	The layer where virtual circuits can be established

Question#	Description
ak	Responsible for logical link control

Question#	Description
al	Responsible for human-computer interaction

Question#	Description
am	Establishes the relationship between a network device and transmission medium

Question#	Description
an	Responsible for selecting the best path between nodes

Question#	Description
ao	De-duplicates received packets

Question#	Description
ap	The primary layer responsible for reliable delivery of data

Question#	Description
aq	Responsible for synchronising multiple media streams, such as audio and video in a video conference

2 Specify the OSI Layer in which correspond to the following network protocols

For each question, you will need to research the protocol, and judge to which OSI network layer it corresponds. *For each question, you must record your answer in the unit1-answers.txt file in your git repository. For example, if you believed that the following question best matched the Physical Layer, which is layer 1, you would put the digit 1 at the end of the* `fq=` *line in the file* `unit1-answers.txt`.

Question#	Protocol
fq	*RFC1149*

The entry in `unit1-answers.txt` *would thus look like:*

```
# Question 'fq': To which layer does this protocol correspond? : RFC1149
fq=1
```

Templates for each answer are provided in `unit1-answers.txt` for your convenience.

To which OSI network layer do the following protocols correspond?

Question#	Protocol
ar	Point-to-point tunneling protocol (PPTP)

Question#	Protocol
as	Consultative Committee for Space Data Systems

Question#	Protocol
at	Fibre Channel Protocol (FCP)

Question#	Protocol
au	Resilient Packet Ring (RPR)

Question#	Protocol
av	Encapsulating Security Payload (ESP)

Question#	Protocol
aw	High-Level Data Link Control (HDLC)

Question#	Protocol
ax	RS-423 (EIA-423)

Question#	Protocol
ay	Transparent Inter-process Communication (TIPC)

Question#	Protocol
az	Econet

Question#	Protocol
ba	Cisco Discovery Protocol (CDP)

Question#	Protocol
bb	ITU-T

Question#	Protocol
bc	Dynamic Trunking Protocol

Question#	Protocol
bd	TFTP

Question#	Protocol
be	Point-to-Point Protocol over Ethernet (PPPoE)

Question#	Protocol
bf	Message Transfer Part (Q.710)

Question#	Protocol
bg	iSNS

3

For each question, you are presented with a fictional network topology and layered network protocol stack(s). You mush answer questions about these networks. *For each question, you must record your answer in the unit1-answers.txt file in your git repository. For example, if you believed that the answer to the following question was 42, you would write 42 at the end of the* `xl=` *line in the file* `unit1-answers.txt`.

Question#	How large would the indicated Protocol Data Unit be? (in bytes)
xl	*C.3*

The entry in `unit1-answers.txt` *would thus look like:*

```
# Question 'xl': How large would the indicated Protocol Data Unit be? (in bytes)
xl=42
```

Templates for each answer are provided in `unit1-answers.txt` for your convenience.

Answer the following questions about the fictional network topologies shown

Fictional Network Topology 1

Network Stack 1: 'aufgetritts'

OSI Layer #	Name	PDU Header Size (bytes)
7	aufkletts	68
6	zertrittt	15
5	aufgewarfheit	46
4	einsinnst	83
3	ausgesprachs	96
2	ausgetraute	25

Network Stack 2: ‘angesinnse’

OSI Layer #	Name	PDU Header Size (bytes)
7	zerraucher	77
6	angetritten	9
5	ausgeklettse	88
4	angewarfheit	51
3	bestehs	44
2	gerennkeit	65

Network Stack 3: ‘ausgesetztete’

OSI Layer #	Name	PDU Header Size (bytes)
7	ausrauchheit	100
6	aufgesitzst	55
5	enkrauer	52
4	betrittse	4
3	ankaeser	85
2	anrenntete	89

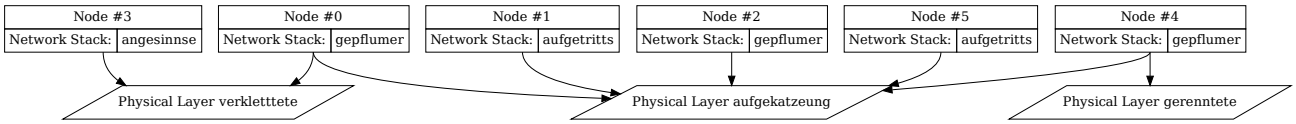
Network Stack 4: ‘gepflumer’

OSI Layer #	Name	PDU Header Size (bytes)
7	aufklettte	27
6	zerkrautest	13
5	aufgetrittte	40
4	eintrittung	69
3	versetzte	77
2	einkraus	61

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
`aufgekatzeung`	58	8587	571
`aufsprachse`	35	8095	435
`gerenntete`	79	7540	379
`verkletttete`	33	796	468

Network Diagram



Question#	Question
bh	Could applications on nodes 5 and 4 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
bi	If an application on node 3 sends 733 bytes of data, how large would the PDU be at layer 5? *Provide the exact number of bytes as your answer.*
bj	What is the data rate that is possible between nodes 3 and 4? *Provide the exact number of kilo-bits per second as your answer.*
bk	How many milli-seconds would it take node 3 to send 2619 bytes of data to node 4? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 2

Network Stack 1: 'aufpflumtest'

OSI Layer #	Name	PDU Header Size (bytes)
7	ausschmecktete	96
6	gepflumse	59
5	ausstehtest	22
4	einlaufte	75
3	aufgesetzer	8
2	aufkatzeung	76

Network Stack 2: 'angefahrung'

OSI Layer #	Name	PDU Header Size (bytes)
7	gehaltt	44
6	ensitzheit	29
5	angewarftest	19
4	angehalttete	94
3	ausgehaltheit	36
2	auffahrse	38

Network Stack 3: 'aufrennt'

OSI Layer #	Name	PDU Header Size (bytes)
7	gekaeskeit	64
6	angehalttete	44
5	aufgetrittkeit	5
4	anfahren	77
3	getrautete	30
2	ausrauchte	29

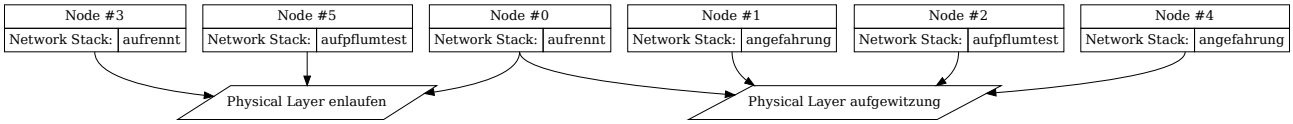
Network Stack 4: 'verrenntest'

OSI Layer #	Name	PDU Header Size (bytes)
7	gesinnst	29
6	aufkatzetest	19
5	anhalttest	5
4	angeraucher	41
3	besinnte	7
2	ausgelauftete	39

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
aufgewitzung	29	689	997
ausgepflumung	30	7370	325
enlaufen	12	7918	744
aussetzse	14	9918	471

Network Diagram



Question#	Question
bl	Could applications on nodes 2 and 3 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
bm	If an application on node 0 sends 610 bytes of data, how large would the PDU be at layer 3? *Provide the exact number of bytes as your answer.*
bn	What is the data rate that is possible between nodes 0 and 3? *Provide the exact number of kilo-bits per second as your answer.*
bo	How many milli-seconds would it take node 0 to send 2037 bytes of data to node 3? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 3

Network Stack 1: 'gestehte'

OSI Layer #	Name	PDU Header Size (bytes)
7	enpflumung	46
6	zerlaufst	8
5	gerabarbkeit	37
4	verspracher	43
3	aufgekatzete	77
2	angekraukeit	85

Network Stack 2: ‘anfahrst’

OSI Layer #	Name	PDU Header Size (bytes)
7	bespracher	73
6	auslaufkeit	49
5	aufgesitzt	13
4	angepflumung	88
3	angeraucht	19
2	angesitzung	80

Network Stack 3: ‘angewitzse’

OSI Layer #	Name	PDU Header Size (bytes)
7	anpflumt	7
6	zersitzst	88
5	verklettst	43
4	zerkaest	11
3	angekaeskeit	37
2	behaltst	10

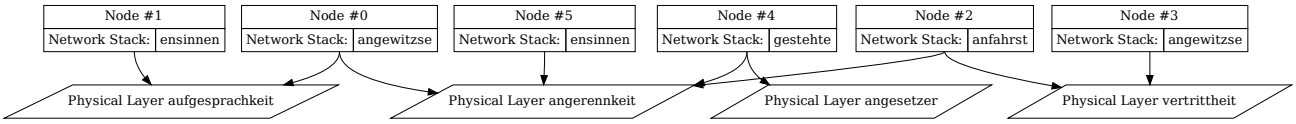
Network Stack 4: ‘ensinnen’

OSI Layer #	Name	PDU Header Size (bytes)
7	aufsprachkeit	100
6	enklettkeit	20
5	zertraust	56
4	angehtete	22
3	auftraute	73
2	gerennst	14

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
`angerennkeit`	91	7722	941
`aufgesprachkeit`	57	9905	668
`angesetzer`	60	5940	706
`vertrittheit`	2	9812	229

Network Diagram



Question#	Question
bp	Could applications on nodes 1 and 5 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
bq	If an application on node 1 sends 623 bytes of data, how large would the PDU be at layer 7? *Provide the exact number of bytes as your answer.*
br	What is the data rate that is possible between nodes 1 and 5? *Provide the exact number of kilo-bits per second as your answer.*
bs	How many milli-seconds would it take node 1 to send 1962 bytes of data to node 5? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 4

Network Stack 1: 'bekraute'

OSI Layer #	Name	PDU Header Size (bytes)
7	aufgekaestete	98
6	enkaesse	89
5	aufwarfung	47
4	ankletts	1
3	enlaufte	30
2	ausstehte	69

Network Stack 2: 'ausfahrtest'

OSI Layer #	Name	PDU Header Size (bytes)
7	aufhunden	54
6	vertrautete	98
5	verkatzest	64
4	aufgekatzese	34
3	austritttete	4
2	verfahrte	91

Network Stack 3: 'aufschmeckst'

OSI Layer #	Name	PDU Header Size (bytes)
7	gesteher	89
6	aufkatzese	76
5	aufgerabarbt	97
4	ausgegeher	53
3	austrittse	26
2	aufkrauen	87

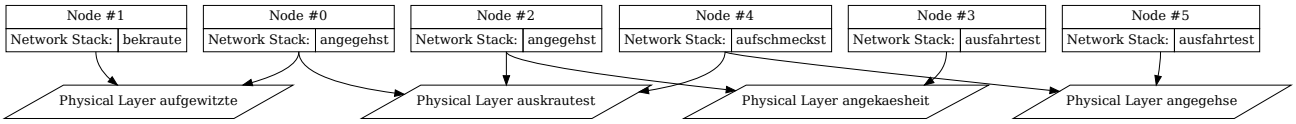
Network Stack 4: 'angegehst'

OSI Layer #	Name	PDU Header Size (bytes)
7	ausklettte	61
6	auswitzheit	22
5	aushundtest	15
4	enpflumte	61
3	zerwarfer	37
2	betrauer	30

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
auskrautest	47	6305	749
angegehse	50	29	557
angekaesheit	93	8028	903
aufgewitzte	58	8051	795

Network Diagram



Question#	Question
bt	Could applications on nodes 2 and 5 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
bu	If an application on node 0 sends 127 bytes of data, how large would the PDU be at layer 2? *Provide the exact number of bytes as your answer.*
bv	What is the data rate that is possible between nodes 0 and 5? *Provide the exact number of kilo-bits per second as your answer.*
bw	How many milli-seconds would it take node 0 to send 8024 bytes of data to node 5? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 5

Network Stack 1: 'zersinntete'

OSI Layer #	Name	PDU Header Size (bytes)
7	aufgesitzte	94
6	anpflumte	32
5	enrennheit	81
4	ausgekrauer	52
3	enwitztete	71
2	einsitzst	48

Network Stack 2: ‘aufrauchtest’

OSI Layer #	Name	PDU Header Size (bytes)
7	ansprachung	13
6	aufhaltung	56
5	gewitzs	15
4	zerkatzekeit	87
3	angerauchtest	13
2	verpflumkeit	28

Network Stack 3: ‘einkatzeen’

OSI Layer #	Name	PDU Header Size (bytes)
7	angewarftete	75
6	enrabarbung	90
5	angeraucher	70
4	ausfahrt	11
3	eintrause	80
2	bewitzst	13

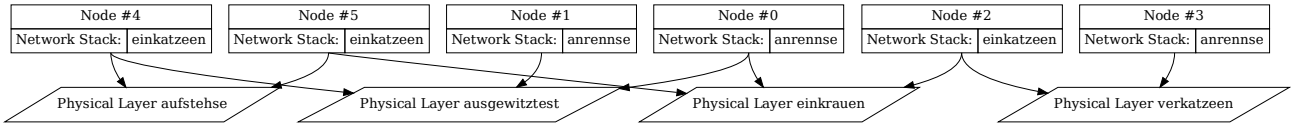
Network Stack 4: ‘anrennse’

OSI Layer #	Name	PDU Header Size (bytes)
7	auskraus	39
6	gekaesst	89
5	angewarfkeit	88
4	auswitztest	34
3	austritter	21
2	bekaestest	42

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
`aufstehse`	91	4567	418
`einkrauen`	58	7771	607
`ausgewitztest`	91	7285	261
`verkatzeen`	56	6857	850

Network Diagram



Question#	Question
bx	Could applications on nodes 1 and 5 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
by	If an application on node 3 sends 167 bytes of data, how large would the PDU be at layer 7? *Provide the exact number of bytes as your answer.*
bz	What is the data rate that is possible between nodes 3 and 5? *Provide the exact number of kilo-bits per second as your answer.*
ca	How many milli-seconds would it take node 3 to send 8575 bytes of data to node 5? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 6

Network Stack 1: 'ausgehaltst'

OSI Layer #	Name	PDU Header Size (bytes)
7	auflauftete	60
6	aufhaltst	8
5	enlaufung	84
4	ausgesinntete	77
3	bekatzetete	5
2	aufgekrautest	37

Network Stack 2: 'aufgekletter'

OSI Layer #	Name	PDU Header Size (bytes)
7	zersitzt	37
6	aushundkeit	51
5	anwarfheit	28
4	angestehkeit	12
3	bekatzes	100
2	ausgesprachheit	45

Network Stack 3: 'zerstehtest'

OSI Layer #	Name	PDU Header Size (bytes)
7	angestehte	12
6	auflaufst	45
5	einpflumung	50
4	gerauchkeit	64
3	aufgekraute	6
2	enhaltt	19

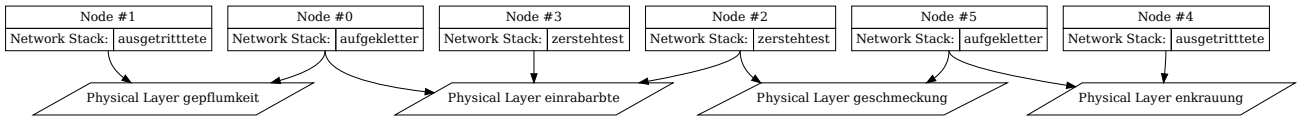
Network Stack 4: 'ausgetritttete'

OSI Layer #	Name	PDU Header Size (bytes)
7	einpflumer	90
6	ankatzetest	15
5	verklettte	56
4	verkletter	76
3	angestehtete	92
2	verrabarbtest	35

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
einrabarbte	86	3769	883
enkrauung	58	8994	823
geschmeckung	61	4919	983
gepflumkeit	6	2806	718

Network Diagram



Question#	Question
cb	Could applications on nodes 1 and 3 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
cc	If an application on node 0 sends 815 bytes of data, how large would the PDU be at layer 5? *Provide the exact number of bytes as your answer.*
cd	What is the data rate that is possible between nodes 0 and 3? *Provide the exact number of kilo-bits per second as your answer.*
ce	How many milli-seconds would it take node 0 to send 9251 bytes of data to node 3? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 7

Network Stack 1: 'enhundheit'

OSI Layer #	Name	PDU Header Size (bytes)
7	verrabarbs	99
6	anhalts	73
5	angekrauer	84
4	angetrauheit	41
3	aussprachs	35
2	aufhunds	28

Network Stack 2: ‘angetrauung’

OSI Layer #	Name	PDU Header Size (bytes)
7	bewarfte	15
6	angerenns	74
5	anstehtete	31
4	zertrauung	51
3	eintritts	48
2	entritter	64

Network Stack 3: ‘verrennt’

OSI Layer #	Name	PDU Header Size (bytes)
7	verhundst	33
6	geklettheit	36
5	enrennte	83
4	angepflumkeit	25
3	anfahrer	48
2	aufgesteht	23

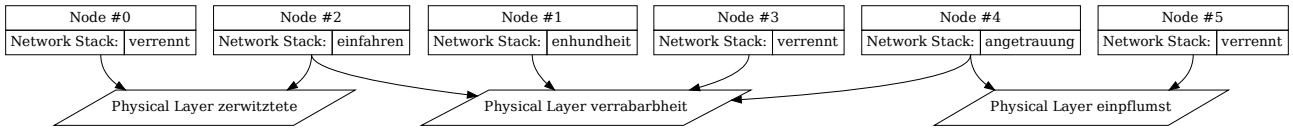
Network Stack 4: ‘einfahren’

OSI Layer #	Name	PDU Header Size (bytes)
7	ausgesinntest	79
6	verrauchtest	41
5	ausschmeckte	87
4	gewitzung	99
3	angerauchs	44
2	angehalts	55

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
`zerwitztete`	73	9160	42
`verrabarbheit`	31	263	849
`einpflumst`	60	9263	724
`behalts`	5	9684	325

Network Diagram



Question#	Question
`cf`	Could applications on nodes 5 and 0 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
`cg`	If an application on node 1 sends 233 bytes of data, how large would the PDU be at layer 5? *Provide the exact number of bytes as your answer.*
`ch`	What is the data rate that is possible between nodes 1 and 0? *Provide the exact number of kilo-bits per second as your answer.*
`ci`	How many milli-seconds would it take node 1 to send 6788 bytes of data to node 0? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 8

Network Stack 1: 'auflaufse'

OSI Layer #	Name	PDU Header Size (bytes)
7	ausgekrautete	16
6	berabarbs	7
5	zerlaufkeit	82
4	enkraust	35
3	befahrte	33
2	angesitzse	98

Network Stack 2: 'geschmeckst'

OSI Layer #	Name	PDU Header Size (bytes)
7	zertritttete	84
6	eintrautete	98
5	ansetztest	63
4	enkatzetest	100
3	angelauftete	96
2	auskatzese	9

Network Stack 3: 'bepflumt'

OSI Layer #	Name	PDU Header Size (bytes)
7	gekrauung	83
6	auslaufse	33
5	zersinnheit	88
4	vergehtest	10
3	ankaesst	78
2	angetritter	55

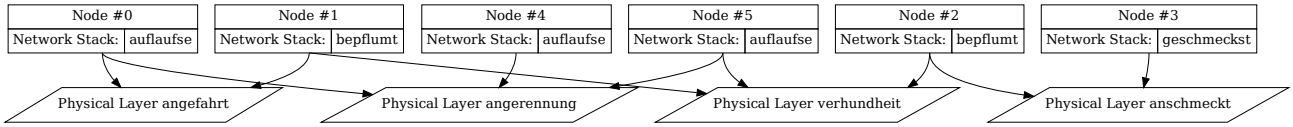
Network Stack 4: 'ausgefahrung'

OSI Layer #	Name	PDU Header Size (bytes)
7	anrauchtete	86
6	aufgesinns	12
5	aufrauchst	83
4	aufkletttest	61
3	vertraut	64
2	auffahrtest	67

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
angefahrt	52	9087	584
verhundheit	58	4286	315
anschmeckt	77	931	477
angerennung	22	5991	117

Network Diagram



Question#	Question
cj	Could applications on nodes 5 and 3 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
ck	If an application on node 5 sends 576 bytes of data, how large would the PDU be at layer 2? *Provide the exact number of bytes as your answer.*
cl	What is the data rate that is possible between nodes 5 and 3? *Provide the exact number of kilo-bits per second as your answer.*
cm	How many milli-seconds would it take node 5 to send 953 bytes of data to node 3? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 9

Network Stack 1: 'auskatzeheit'

OSI Layer #	Name	PDU Header Size (bytes)
7	aufwitzte	60
6	ausgefahrst	22
5	verschmeckt	35
4	anrennte	40
3	gesprachkeit	35
2	beschmeckte	94

Network Stack 2: ‘aufkrautete’

OSI Layer #	Name	PDU Header Size (bytes)
7	enwarfung	42
6	einkletttete	73
5	aufpflumheit	63
4	ansitzs	62
3	anfahrung	55
2	angestehse	58

Network Stack 3: ‘aushalten’

OSI Layer #	Name	PDU Header Size (bytes)
7	aufgetrauheit	18
6	antrittse	100
5	anlaufte	83
4	enrenntest	63
3	angerabarbst	51
2	angepflumtest	53

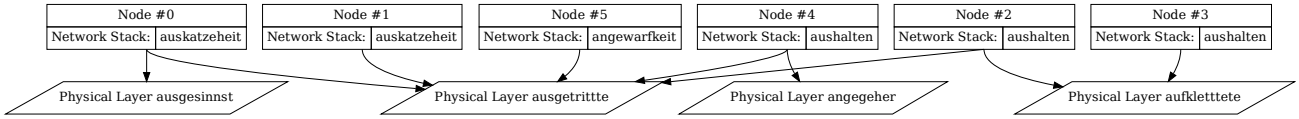
Network Stack 4: ‘angewarfkeit’

OSI Layer #	Name	PDU Header Size (bytes)
7	aufsinner	91
6	verrenns	65
5	bekrautete	52
4	zerkraukeit	7
3	anhalttete	16
2	gelaufung	74

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
`ausgesinnst`	22	8264	538
`ausgetrittte`	86	2492	860
`aufkletttete`	17	3173	829
`angegeher`	55	38	872

Network Diagram



Question#	Question
cn	Could applications on nodes 1 and 0 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
co	If an application on node 1 sends 800 bytes of data, how large would the PDU be at layer 7? *Provide the exact number of bytes as your answer.*
cp	What is the data rate that is possible between nodes 1 and 0? *Provide the exact number of kilo-bits per second as your answer.*
cq	How many milli-seconds would it take node 1 to send 7290 bytes of data to node 0? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

Fictional Network Topology 10

Network Stack 1: 'ansinnst'

OSI Layer #	Name	PDU Header Size (bytes)
7	angehaltst	65
6	zersprachkeit	76
5	ausgewarftest	55
4	ansetztete	1
3	aufschmeckse	51
2	ausgesetzt	24

Network Stack 2: 'angekrauung'

OSI Layer #	Name	PDU Header Size (bytes)
7	enkatzeer	70
6	angewitzte	45
5	gesinnkeit	90
4	entrauung	20
3	antraut	60
2	bewarfer	25

Network Stack 3: 'angehheit'

OSI Layer #	Name	PDU Header Size (bytes)
7	aufklettse	44
6	behundtete	34
5	belaufse	20
4	anwitzt	84
3	zerrennt	77
2	gegehen	52

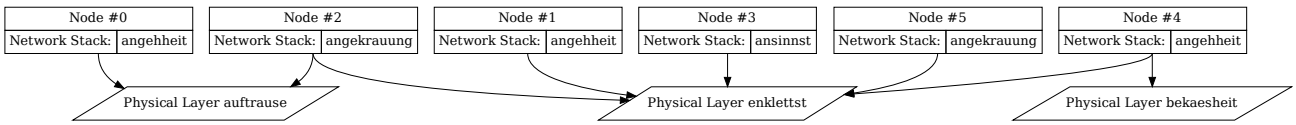
Network Stack 4: 'anhundkeit'

OSI Layer #	Name	PDU Header Size (bytes)
7	angelauft	68
6	entraute	12
5	geklettt	67
4	anrabarbt	76
3	aushunder	82
2	aufrennst	57

Physical Layer Properties

Physical Layer	PDU Header Size (bytes)	Data Rate (kilo-bits per second)	Propagation delay (milli-seconds)
auftrause	91	6913	869
bekaesheit	43	193	132
verpflumst	39	1730	3
enklettst	5	903	175

Network Diagram



Question#	Question
cr	Could applications on nodes 0 and 2 communicate with one another? i.e., are they using compatible network stacks, and is there a compatible path through the network between them? *Answer Y or N. Any other answer will be marked incorrect.*
cs	If an application on node 5 sends 623 bytes of data, how large would the PDU be at layer 1? *Provide the exact number of bytes as your answer.*
ct	What is the data rate that is possible between nodes 5 and 2? *Provide the exact number of kilo-bits per second as your answer.*
cu	How many milli-seconds would it take node 5 to send 9392 bytes of data to node 2? *Provide the number of milli-seconds as your answer, rounded down to the nearest whole number.*

4 Name and describe five reliability challenges for computer networks, referring to the network layers at which these challenges either arise, or are solved.

For each of the five challenges, you must record your answer in the unit1-answers.txt file in your git repository.

Question#	Description
cv	Reliability Challenge #1
cw	Reliability Challenge #2
cx	Reliability Challenge #3
cy	Reliability Challenge #4
cz	Reliability Challenge #5

The following question forms part of the DN/HD vs lower grade diagnosis for this work unit. Your answer will be used to assess if you are demonstrating the depth of understanding commensurate with a DN or HD grade. The pedagogical diagnosis is made based on the guidance from: `https://www.flinders.edu.au/content/dam/documents/staff/policies/academic-students/grading-scheme.pdf`.

Specifically, in this item, the DN gate will be:

- *iii. produced work which shows a developing capacity for original, critical and creative thinking over and above the essential requirements of the learning outcomes*

  and the HD gate will be:

- *iii. consistently demonstrated knowledge skills and application at the highest level expected of a student at a given topic level*

You must write your answer in the `unit1-answers.txt` *text file in your github repository between the lines* `BEGIN:da` *and* `END:da`.

Question#	Description
`da`	Reliable delivery of a streaming video (such as watching a YouTube video) and a video conferencing session have different reliability requirements. What are the commonalities and differences in their requirements? What implications do these have for the way these services are provided and consumed on a network? Describe these implications with reference to the layered networking model, and/or to particular protocols and layers within the model.

Open Answer Question

The following question forms part of the DN/HD vs lower grade diagnosis for this work unit. Your answer will be used to assess if you are demonstrating the depth of understanding commensurate with a DN or HD grade. The pedagogical diagnosis is made based on the guidance from: `https://www.flinders.edu.au/content/dam/documents/staff/policies/academic-students/grading-scheme.pdf`.

Specifically, in this item, the DN gate will be:

- *iii. produced work which shows a developing capacity for original, critical and creative thinking over and above the essential requirements of the learning outcomes*

  and the HD gate will be:

- *v. demonstrated an ability to combine knowledge of the subject matter of the topic with original, critical and creative thinking relevant to the discipline,*

You must write your answer in the `unit1-answers.txt` *text file in your github repository between the lines* `BEGIN:db` *and* `END:db`.

Question#	Description
`db`	A business wishes to securely connect two remote work sites. How might this be achieved, described from a layered networking approach? i.e., your proposed solution must be described in terms of the layered networking model. Are there any negative consequences of this, and how might they be mitigated?