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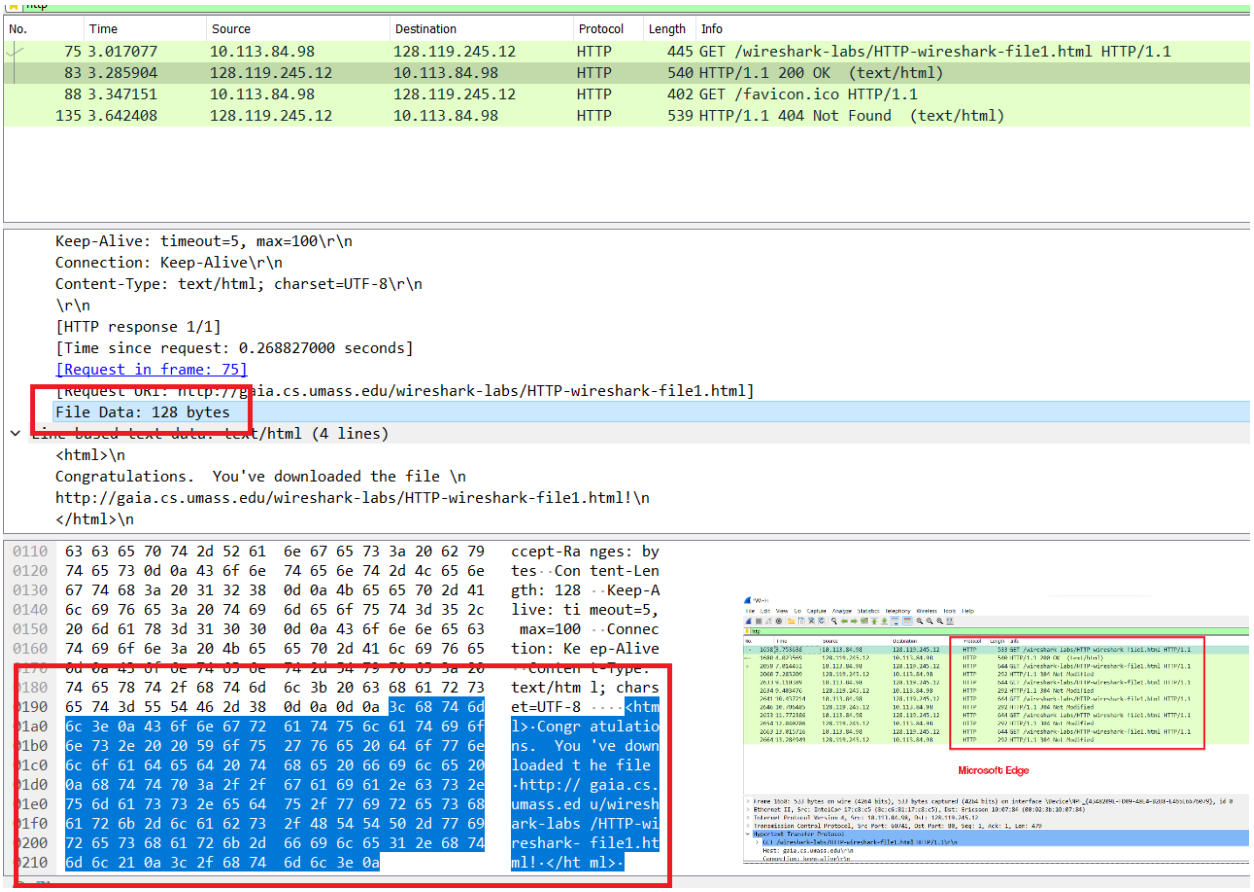
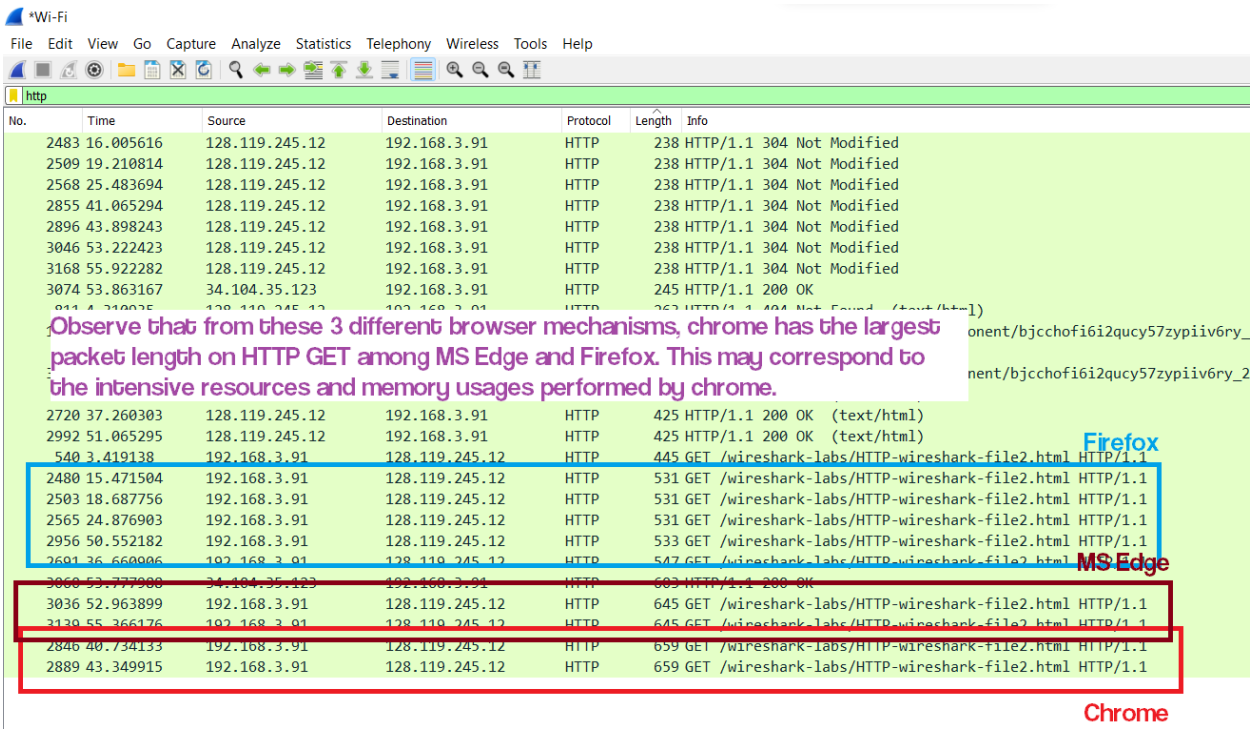
Class : IUP CS B

Assignment 2 – Lab Computer Network and Operating System

1. Revisit problem no.3 in Activity 2.1. Explain why the content of this html file is equal to 128 bytes.
   Taking closer look at the content section, we may see the hexadecimal and HTML snippets code contained in the 128 bytes data. This HTML file then corresponds to content rendered in browser.



2. Perform Activity 2.2 using chrome as the web browser. Enter the same URL multiple times (at least two times) by pressing the Enter-key (not reload, i.e., F5). Chrome is well known to its resource-intensive characteristic where it tends to consume more memory,



From the image given above, as we may see that the package length vary among those browsers and chrome ranked as the largest package length which could impact the memory resources and usages.

3. Theoretically, TCP packet size can reach up to 64kB is size. Investigate why the TCP packets are usually sent in much smaller size (~15kB) compared its theoretical max size.

In Theory, the maximum size of a TCP packet that can be carried out is 65535 bytes or 64kB. But in practice and in the world of ethernet, due to the limitations of hardware mainly ethernet, the TCP packets that were sent will be limited to up to 1500 bytes due to the MTU (Maximum Transmission Unit) of network resources restricts this rule to reduce the probability of packet loss and packet fragmented during the transmission. The larger the packet, the higher the chance that it could cause miscellaneous impacts on the communication process and throughput such packet loss.

Therefore, until these days, the maximum packet sizes may range around 1500 bytes for each packet to help reduce intervening the transmission.

4. Do the module 2's Activity 4 and submit it to Activity 2.4. Search about Base64 encoding-decoding method and try to manually encode the following username and password:

-user: students-ugm
-pass: dcse

Show the encoding steps in detail. After you finish encoding, perform decoding, and show the steps in detail!

Module 2.4 Submitted :

Activity 2.4

Kerjakan pertanyaan 12-13 pada Modul 2. Upload jawaban beserta screenshot bersesuaian yang mendukung jawaban anda.

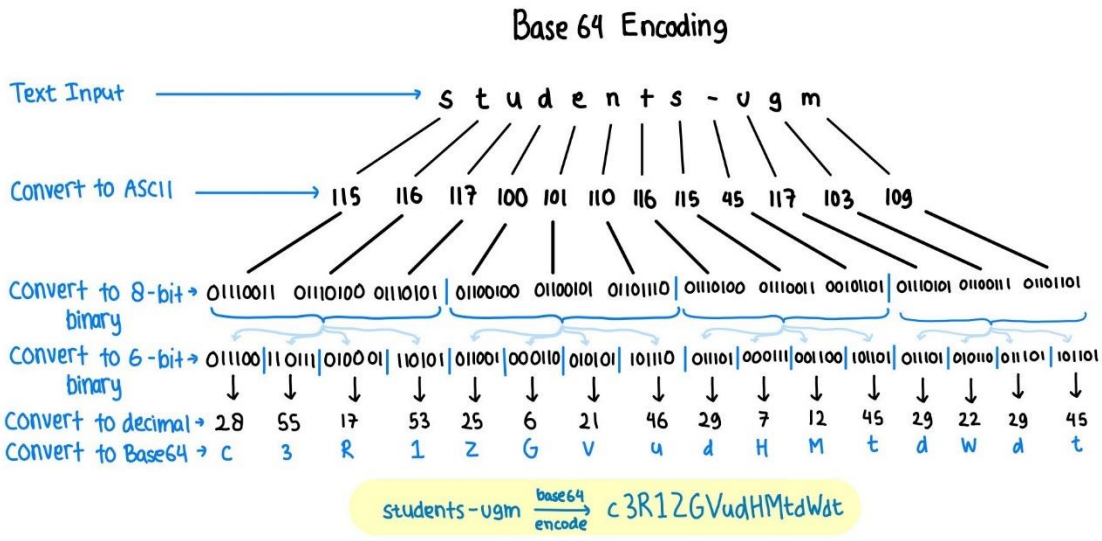
Do questions 12-13 in the modul. Upload the answers along with their corresponding screenshots.

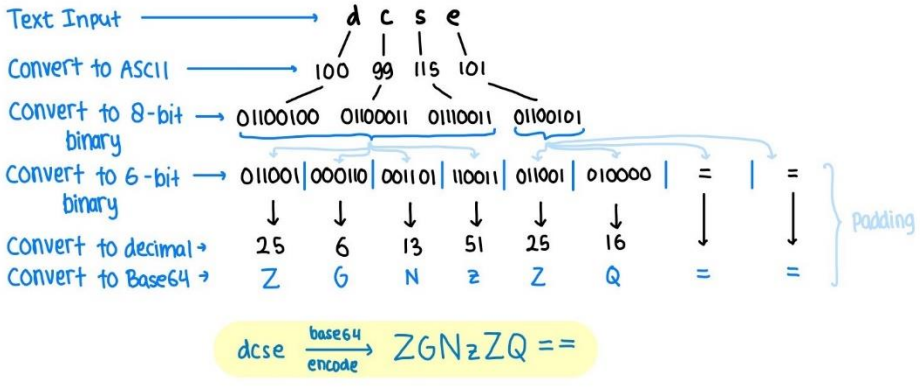
Submission status

Submission status	Submitted for grading
Grading status	Not graded
Last modified	Thursday, 8 September 2022, 11:09 AM
File submissions	472698 - Ramzy Izza Wardha... 8 September 2022, 11:09 AM

Edit submission | Remove submission

You can still make changes to your submission.





Base64 Decoding

c3R12GVudHMtdWat & ZGNzZQ==

Base 64 Input	c	3	R	1	Z	G	V	u	d	H	M	t	d	W	d	t
Convert to base64 Index	28	55	17	53	25	6	21	46	29	7	12	45	29	22	29	45
Convert to 6-bit binary	011100	110111	010001	110101	011001	000110	010101	101110	011101	000111	001100	101101	011101	010110	011101	101101
Convert to 8-bit binary	01110011	01110100	01110101		01100100	01100101	01101110		01110100	01110011	00101101		01110101	01100111	01101101	
Convert to decimal	115	116	117		100	101	110		116	115	45		117	103	109	
Convert to ASCII format Alphabets	s	t	u		d	e	n		t	s	-		u	g	m	

c3R12GVudHMtdWat —base64 decode→ students-ugm

Base 64 Input	25	6	13	51	25	16	=	=
Convert to base64 Index	Z	G	N	z	Z	Q	=	=
Convert to 6-bit binary	011001	000110	001101	110011	011001	010000	=	=
Convert to 8-bit binary	01100100	01100011	01110011		01100101	-	-	
Convert to decimal	100	99	115		101			
Convert to ASCII format Alphabets	d	c	s		e			

ZGNzZQ== —base64 decode→ dcse