Communicative Skills

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All topics

- Unit III
- Unit II
- Unit I

Unit III

Structures of Business Reports 1		Posted Nov 12
Types of Business Report		Posted Nov 10
Report Writing 03		Posted Nov 10
Report Writing 02		Posted Nov 9
Report Writing 01		Posted Nov 9

Unit II

Classwork for Communicative Ski | 002 Types of Communication - G

docs.google.com/forms/d/10REEVrj4ND2P8xoGnal39tXheMUQUzewfef-gR95D9g/edit

002 Types of Communication

Send

Questions | Responses 63 | Settings | Total points: 100

Section 1 of 2

002 Types of Communication

Form description

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Name: *

Short answer text

II B.Com ____ Section *

Start

ENG 10:57 22-12-2021

Business Letter 01 | 002 Types of Communication - G

classroom.google.com/u/0/c/Mzc5NjUxNTc0OTIy/a/NDE3NjU5OTA0NzQx/submissions/by-status/and-sort-last-name/done

Communicative Skills

Instructions | Student work

Return | 100 points

All students

Sort by status

Turned in

Anand	__/100
Balajee Annadurai	__/100
Moov Arasan	__/100
Ariyan	__/100
HARIPRASANTH Aroumou...	__/100

Business Letter 01

Import disabled | Import grades

35 Turned in

55 Assigned

Business Letter 01
Google Forms

Turned in

Anand	Balajee Annadurai	Moov Arasan	Ariyan
No attachments	No attachments	No attachments	No attachments
Turned in	Turned in	Turned in	Turned in

HARIPRASANTH | navithra b | Sivaraje R.com | Sushmitha S

ENG 10:58 22-12-2021

Business Letter 01

Business Letter 01 - Google Form

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Business Letter 01

Send

Questions | Responses 53 | Settings

Total points: 100

Section 1 of 2

Business Letter 01

Personal Details

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Name *

Short answer text

Section *

Start

ENG

10:59

22-12-2021

Quiz 001 - Syllabus

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FUNDAMENTALS OF ACCOUNTANCY

Instructions | Student work

Return | 100 points

All students

Sort by status

Turned in

Jemima .E	100	Draft
Deepika Aaryan	80	Draft
Aripravina Ari	100	Draft
Mohammed Asiq	100	Draft
Keerthana devi	100	Draft

Quiz 001 - Syllabus

Import disabled | Import grades

23 Turned in

22 Assigned

Quiz 001
Google Forms

Turned in

Jemima .E	Deepika Aaryan	Aripravina Ari	Mohammed Asiq
No attachments	No attachments	No attachments	No attachments
Turned in	Turned in	Turned in late	Turned in

ENG 11:01 22-12-2021

Classwork for FUNDAMENTALS C | Cost Sheet Quiz - Google Forms

docs.google.com/forms/d/184kr0ky5FjkrVe-s6V_aQKG73OoUHS6haaOOVVPxNXA/edit

Cost Sheet Quiz

Send

Questions | Responses 24 | Settings | Total points: 100

Where these items will appear?

	Prime Cost	Factory Overheads	Office Overheads	Selling Overheads
Carriage Inwards	○	○	○	○
Freight	○	○	○	○
Postage	○	○	○	○
Factory Rent	○	○	○	○
Power	○	○	○	○

Where these items will appear?

	Prime Cost	Factory Overheads	Office Overheads	Selling Overheads

ENG 11:02 22-12-2021

Company Law
I B.Com A

Stream | Classwork | People | Grades

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Extraordinary General Meetings	Posted Jul 27
Membership	Posted Jul 27
Annual General Meeting	Posted Jul 12
Meetings	Posted Jul 8
PROSPECTUS	Posted Jun 7
Articles of Association	Posted May 31
Difference Between Private and Public Com...	Posted May 20
Difference Between Company and Partners...	Posted May 6
Advantages & Disadvantages of Company	Posted Apr 29

Classwork for FUNDAMENTALS C | Inbox (608) - arun@sgcpdy.com | House Property Quiz 01

classroom.google.com/u/3/c/MzE3NDUyNDc0MjUy/a/MzM4ODA3OTE2NTY5/submissions/by-status/and-sort-name/done

Income Tax
II B.Com

Instructions | Student work

Return | 100 points

All students

Sort by status

Turned in

Babu. R	___/100
Balaji - E	___/100
danish ahamed	___/100
David Deva	___/100
Deepak Rio	___/100

House Property Quiz 01

36 Turned in

55 Assigned

House Property Quiz 01
Google Forms

Turned in

Babu. R	Balaji - E	danish ahamed	David Deva
No attachments	No attachments	No attachments	No attachments
Turned in	Turned in	Turned in	Turned in
Deepak Rio	Deephak	Dio Deny	Edison Jk

ENG 11:11 22-12-2021

Balaji.E(B.com)2nd year - A

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Add class comment...

pavithran tanandjayane
Dec 16, 2020

Pavithran.T 2nd year b.com-A

Screenshot_2020-12-16-1...
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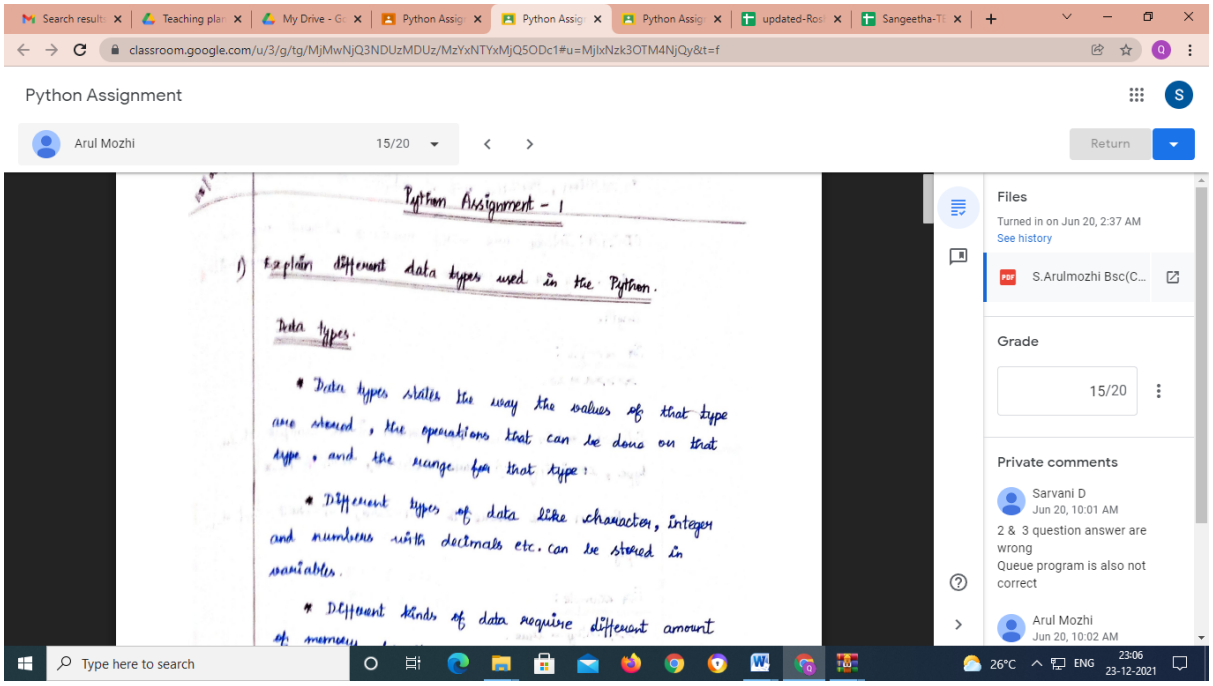
Aadhi Sha
Dec 16, 2020


Python Assignment
Arul Mozhi
15/20
Return
Python Assignment - 1
1) Explain different data types used in the Python.
Data types:
* Data types states the way the values of that type are stored, the operations that can be done on that type, and the range for that type.
* Different types of data like character, integer and numbers with decimals etc. can be stored in variables.
* Different kinds of data require different amount
Files
Turned in on Jun 20, 2:37 AM
See history
S.Arulmozhi Bsc(C...
Grade
15/20
Private comments
Sarvani D
Jun 20, 10:01 AM
2 & 3 question answer are wrong
Queue program is also not correct
Arul Mozhi
Jun 20, 10:02 AM
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ENG
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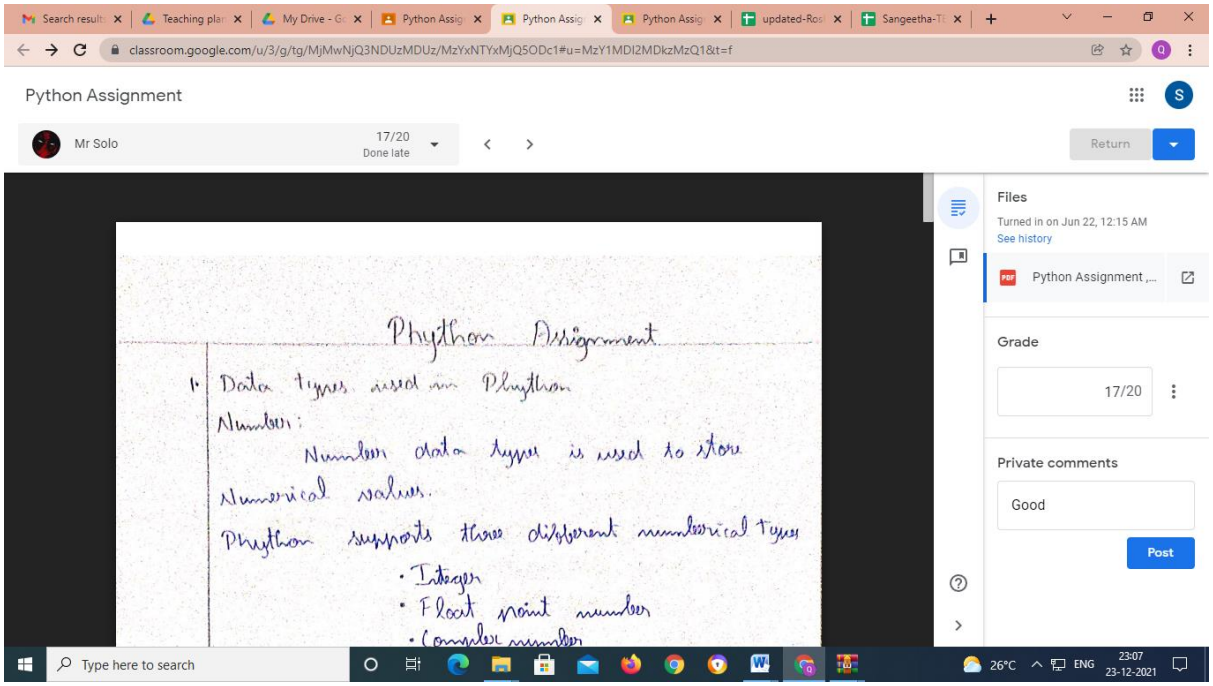
23-12-2021


Python Assignment
Mr Solo
17/20
Done late
Return
Phython Assignment
1. Data types used in Phython
Numbers:
Numbers data types is used to store Numerical values.
Phython supports three different numberical types
• Integer
• Float point number
• Complex number
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Python Assignment ,...
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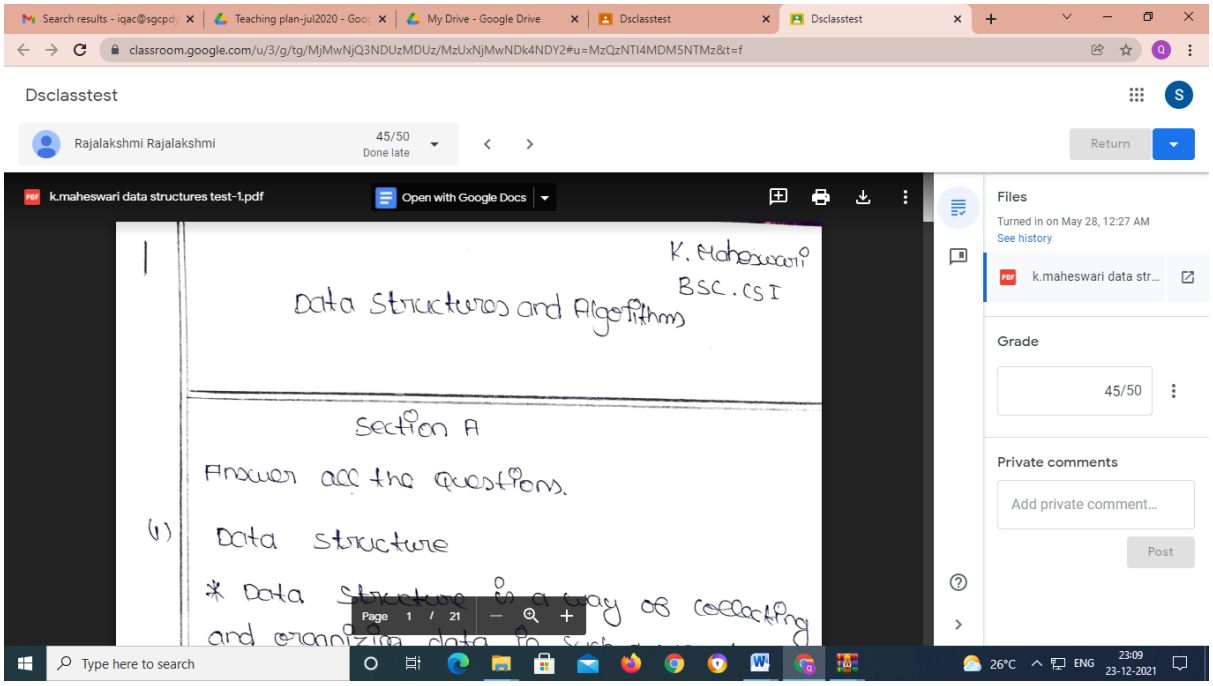
Dsclasstest
Rajalakshmi Rajalakshmi
45/50
Done late
Return
k.maheswari data structures test-1.pdf
Open with Google Docs
K. Maheswari
BSC. CS I
Data Structures and Algorithms
Section A
Answer all the questions.
(1) Data structure
* Data Structure is a way of collecting
Page 1 / 21
Files
Turned in on May 28, 12:27 AM
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k.maheswari data str...
Grade
45/50
Private comments
Add private comment...
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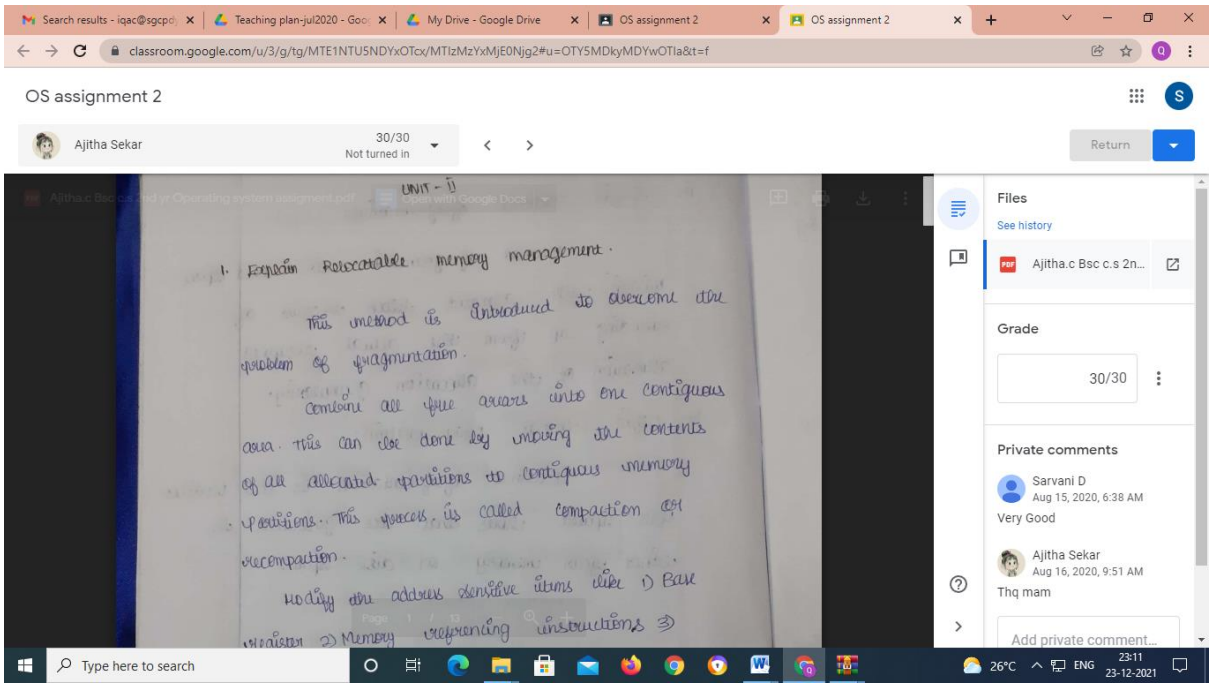
OS assignment 2
Ajitha Sekar
30/30
Not turned in
Return
UNIT - II
1. Explain Relocatable memory management.
This method is introduced to overcome the
problem of fragmentation.
Combine all free areas into one contiguous
area. This can be done by moving the contents
of all allocated partitions to contiguous memory
partitions. This process is called compaction or
recompaction.
Modify the address sensitive items like 1) Base
register 2) Memory referencing instructions 3)
Files
See history
Ajitha.c Bsc c.s 2n...
Grade
30/30
Private comments
Sarvani D
Aug 15, 2020, 6:38 AM
Very Good
Ajitha Sekar
Aug 16, 2020, 9:51 AM
Thq mam
Add private comment...
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ENG
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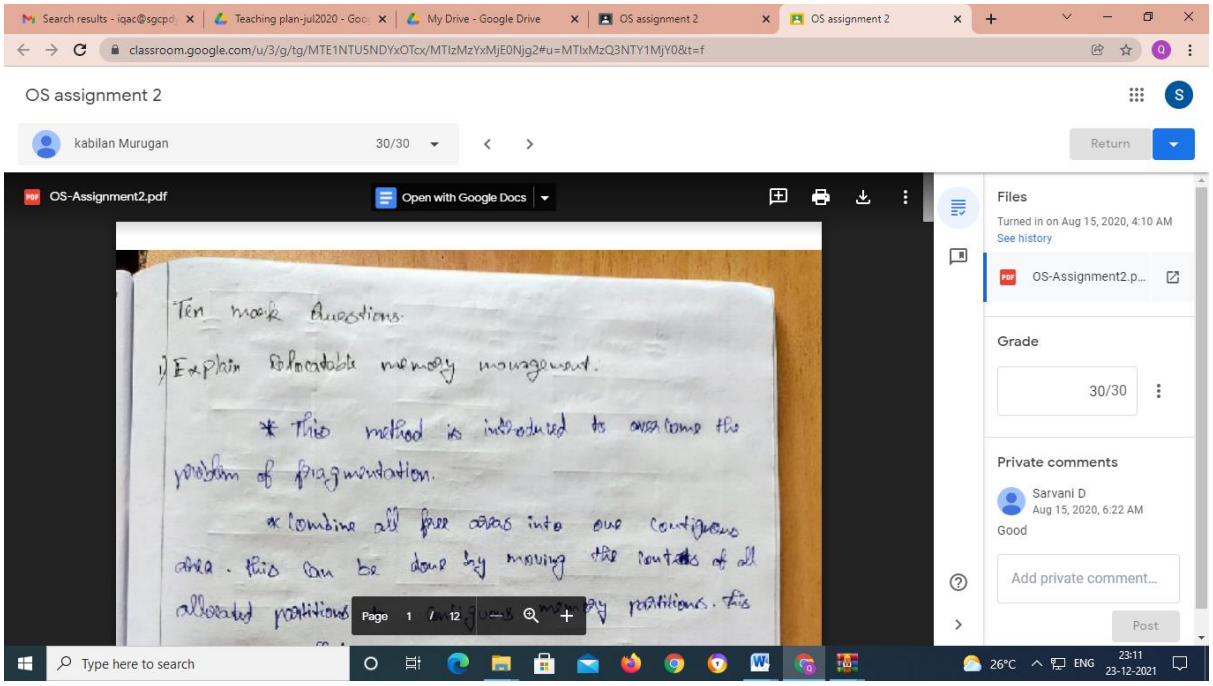
23-12-2021


Search results - iqac@sgcpd
Teaching plan-jul2020 - Goo
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OS assignment 2
OS assignment 2
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OS assignment 2
kabilan Murugan
30/30
Return
OS-Assignment2.pdf
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Ten mock Questions.
1) Explain Relocatable memory management.
* This method is introduced to overcome the problem of fragmentation.
* Combine all free areas into one contiguous area. This can be done by moving the contents of all allocated partitions
Page 1 / 12
Files
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Grade
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Sarvani D
Aug 15, 2020, 6:22 AM
Good
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ENG
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23-12-2021

22/6/21

INFORMATION THEORY AND CODING

T. Nivetha
BSC IT
2nd Yr

Part-A

1. Mutual information

In Probability theory and information theory, the mutual information of two random variables is a measure of the mutual dependence between the two variables. More specifically, it quantifies the "amount of information" obtained about one random variable through observing the other random variable

2. Discrete Memoryless channels

A discrete memoryless channel with an input alphabet $A_X = \{b_1, b_2, \ldots b_J\}$ and an output alphabet $A_Y = \{c_1, c_2, \ldots, c_K\}$ At time instant n, the channel maps the input variable X_n into the output variable Y_n in a random fashion.

3. conditional entropy

That is $H(X;Y) = H(X) + H(Y/X)$. By symmetry, we also have $H(X;Y) = H(Y) + H(X/Y)$

Joint entropy

Substitute $P(x,y)$ for $P(x)$ and $P(x)P(y)$ for $Q(x)$ in (2.6)): $I(X;Y) = \sum_{x,y} P(x,y) \log\left(P(x,y)P(x)P(y)\right)$.

4. The channel capacity theorem

The channel capacity is defined to be the maximum rate at which information can be transmitted through a channel. The fundamental theorem of information theory says that at any rate below channel capacity an error control code can be designed whose probability of error is arbitrarily small.

5. Hamming distance

In information theory the hamming distance between two strings of equal length is the number of position at which the corresponding symbols are different. A major application is in coding theory, more specifically to block codes in which the equal length strings are vectors over a finite field.

Part-C

3. Prove the following relationship

2. Prove that

$$H(X,Y) = H(X/Y) + H(Y)$$
$$H(X,Y) = H(Y/X) + H(X)$$

Solution: Consider eq 1,9,18

$$H(X,Y) = \sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i,y_j)\log_2 \frac{1}{P(x_i,y_j)}$$

$$= -\sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i,y_j)\log_2 P(x_i,y_j)$$

From Probability

$$P(AB) = P(A/B)P(B)$$
$$\therefore P(x_i,y_j) = P(x_i/y_j)P(y_j)$$

Putting this result in the $\log_2$ term of equation (1,9,20)

$$H(x,y) = -\sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i,y_j)\log_2 [P(x_i/y_j)\,P(y_j)]$$

we know, $\log_2[P(x_i/y_j)P(y_j)] = \log_2 P(x_i/y_j) + \log_2 P(y_j)$.

$$H(x,y) = -\sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i,y_j)\log_2 P(x_i/y_j) - \sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i,y_j)\log_2 P(y_j)$$

$$= \sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i,y_j)\log_2 \frac{1}{P(x_i/y_i)} - \sum_{j=1}^{M}\left\{\sum_{i=1}^{M} P(x_i,y_j)\right\}\log_2 P(y_j)$$

The first term in above eq is $H(X/Y)$ as per eq 1.9.5 from the standard Probability

$$\sum_{i=1}^{M} P(x_i, y_j) = P(y_j)$$

$H(X,Y)$ will be written

$$H(X,Y) = H(X/Y) - \sum_{j=1}^{M} P(y_j) \log_2 P(y_j) = H(Y)$$

$$+ \sum_{j=1}^{M} P(y_j) \log \frac{1}{P(y_j)}$$

As per the definition to entropy the second term in the above eq is $H(Y)$.

$$H(X,Y) = H(X/Y) + H(Y)$$

This the first given eq is proved. From the Problity

$$P(AB) = P(B/A) P(A)$$

$$\therefore P(x_i, y_i) = P(y_j / x_i) P(x_i)$$

Putting this result in the log a from the eq (1.9.20)

Hence $H(X,Y)$ will be written

$$H(X,Y) = H(X/Y) - \sum_{j=1}^{M} P(y_j) \log_2 P(y_j)$$

$$\log_2 P(y_j) = H(X/Y) + \sum_{j=1}^{M} P(y_j) \log_2 \frac{1}{P(y_j)}$$

~~As per the def.~~

$$H(X,Y) = -\sum_{i=1}^{n} \sum_{j=1}^{M} P(x_i, y_j) \log_2 \{P(x_i, y_j)$$

$$(\{P(y_j/x_i) P(x_i)\}$$

$$= -\sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i, y_j) \log_2 P(y_j/x_i) - \sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i, y_j) \log_2 P(x_i)$$

$$= \sum_{i=1}^{M}\sum_{j=1}^{M} P(x_i, y_j) \log_2 \frac{1}{P(y_j/x_i)} - \sum_{i=1}^{M}\left\{\sum_{j=1}^{M} P(x_i, y_j)\right\} \cdot \log_2 P(x_i)$$

As Per eq 1.1.11 the first term the above eq is $H(Y/X)$

from Standard Probabilty

$$\sum_{j=1}^{M} P(x_i, y_j) = P(x_i)$$

Hence $H(X,Y)$

$$H(X,Y) = H(Y/X) - \sum_{i=1}^{M} P(x_i) \log_2 P(x_i) = H(Y/X) + \sum_{i=1}^{M} P(x_i) \log_2 \frac{1}{P(x_i)}$$

As Per the defention of entropy the second term in the above eq is $H(X)$

$$H(X,Y) = H(Y/X) + H(X)$$

Thus the second Part of the given equation is Proved.

1. Let U be a memoryless source value in $\{A, B, C, D, E, F, G\}$ with the probabilities $\{0.4, 0.2, 0.15, 0.1, 0.05, 0.05, 0.05\}$

The entropy of U is

$$H(U) = -0.4 \times \log_2 0.4 - 0.2 \times \log_2 0.2 - 0.15 \times \log_2 0.15 - 0.1 \times \log_2 0.1 - 3 \times 0.05 \times \log_2 0.05$$

$$H(U) = 2.38 \text{ bits}$$

The maximum entropy of a source taking on 7 value is $\log_2 7 = 2.81$ bits

U has redundancy and its data can be compressed with a fixed length code

The length n has to be chosen as the smallest integer satisfying

$$2^n \geq 7$$

we obtain $n = 3$

with Shannon - Fano code

Symbols	Probabilities	1st Step	2nd Step	3rd Step	4th Step	5th Step	6th Step	Code Word
A	0.4	1	1					11
B	0.2	1	0					10
C	0.15	0		1	1			011
D	0.1	0		1	0			010
E	0.05	0		0		1	1	0.011
F	0.05	0		0		1	0	0010
G	0.05	0		0		0		000

The average number of bits required to represent one source symbol is:

$$\bar{n} = 2 \times (0.4 + 0.2) + 3 \times (0.15 + 0.1 + 0.05) + 4 \times (0.05 + 0.05) = 2.5$$

Compared to the 3 fixed length code, this Shannon-Fano code results in a reduction in the symbol rate of $\frac{3 - 2.5}{3} = 16\%$.

Part - B

Mutual Information & Properties

i) The mutual information of the channel is symmetric i.e $I(X;Y) = I(Y;X)$

ii) The mutual information can be expressed in term of entropies of chanel input or output and conditional entropies. i.e

$$I(X;Y) = H(X) - H(X/Y) = H(Y) - H(Y/X)$$

Here $H(X/Y)$ and $H(Y/X)$ are conditional entropies

iii) The mutual information is always positive i.e. $I(X;Y) \geq 0$

iv) The mutual information is related to the joint entropy $H(X,Y)$ by following relation:

$$I(X;Y) = H(X) + H(Y) - H(X,Y)$$

4. Methods of controlling Errors & Types

There are two main method used for error control coding : forward acting error correction & error detection with transmission

i) In this method the error are detected and corrected by proper coding techniques at the receiver. The check bits or redundant bits are used by the receiver to detect and correct errors.

ii) In this method, the decoder checks the input sequence. when it detects any error, it discards that part of the sequence and requests the transmitter for retransmission.

Types of Errors:

There are mainly two types of error introduced during transmission on the data Random error & burst error

i) Random error : These errors are created due to which gaussian noise in the channel.

ii) Burst errors : These errors are generated due to Impulsive noise in the channel these impulse noise are generated due to lightning and switching transients.

5) Explain odd and Even Parity coding

Odd Parity : If the Parity bit is added such that there are odd number of '1's' then it is called odd Parity coding

Eg:

Message bits	Parity bit	codeword
01001001	1	010010011
10110000	0	101100000

Even Parity coding :

If the Parity bit is added such that there are even number of '1's then it is called even Parity coding.

Message bit	Parity bit	Codeword
1101000	0	11010000
0110111	1	01101111

Advantages

1) Parity coding is simple

2) Very simple decoders & generator are required

3) with Vertical & Horizontal check, it is possible to detect particular bit in error

Disadvantage

1) It only detect errors if cannot errors

2) Mullifle errors cannot be detected

3. Rate of Information transmission over a Discrete channel.

The entropy of the Symbol gives average amount of information going into the

$$H(X) = \sum_{i=1}^{M} P_i \log_2 \left(\frac{1}{P_i}\right)$$

$$D_{in} = rH(X) \text{ bits / sec}$$

Transmitted information $= H(X) - H(X/Y)$

Hence the average rate of information transmission D_t across the channel will be

$$D_t = [H(X) - H(X/Y)]\, r \text{ bits/sec}$$

Capacity of a Discrete Memoryless channel

In the previous subsection we discussed the rate of information transf across the discrete memoryless

$$C = \max_{P(x)} |D_t|$$

Putting for D_t from eq (1.9.26).

$$C = \max_{P(X)} \{H(x) - H(X/Y)\} \cdot r.$$