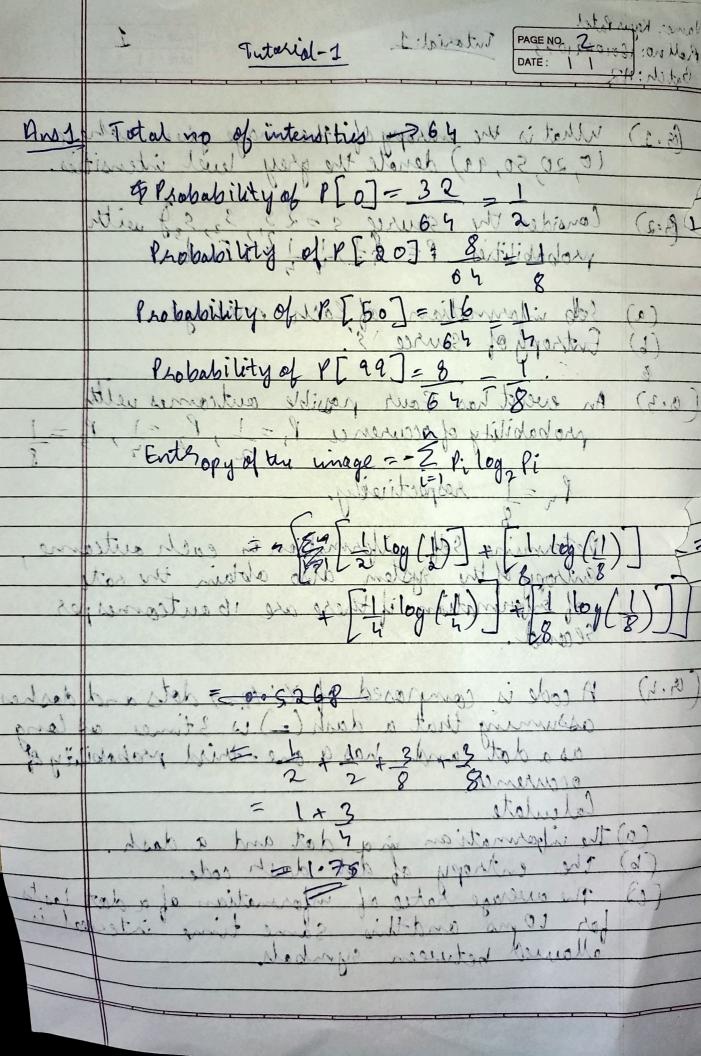
Name: Keyur Patel PAGE NO. 1 Tutorial: 1 Rell no: 16010421073 t-lower-13 atch: 192 What is the sintropy of the timage given brokesents 10, 20, 50, 99) denote the grey level intensities. Consider the source s = 23, 3, 5, 3 with mobilities P=0 \$ 2 11 1 3 Find (a) sels information of lach messagers?
(b) Entropy of source's. An evert has Four possible outcomes welth probability of occurence P=1, P=1, P==1 Pr=1 respectively. entropy of the system also obtain the sate of entropy of the system also obtain the sate selections per second. A code is composed of it to adots and dashes (04,4) assuring that a dash (=) is 3 times as long as a dot and has a one-trish probability of occurrence.

Calculate

(a) The information in a dot and a dash. (6) The entropy of dot-idash rode. for 10 no and this same time interwed is allowed between symbols.



Tutorial-11-lairotui PAGE NO. 3 (AND) S={5, 52, 53 } (a) Self information of S = log 2 = 1 "of 5 = Log 4 = 2 "of 5 = log 4 = 2 (b) Entropy of Source S = - In Partogo Pilos =- [2 log 1 + 1 log 1/2 + 1 log 4] 1 = 3 of 1 E K = 3008 (Amo 3) Self information of P = log 2 = 2

1) Self information of P = log 2 = 2

1) I = log 4 = 2

Mid (1) 0 = log 4 = 2 Mid (1,0) = log 8 = 3

(2) rol 2 rue log 8 = 3. Entropy of the System = - 5 P. log Pi = [log(2)+ log(4)+ g log(8)+ g log(8) 7-1-0-5 268 2 1 2 1 2 1 0 3 - 5260 +1 1+13 - 7 - 1-75. bits/gymbal

Tutorial-11 biroty ! (AM2) 5={5, 5, 5} a) self videographics of selegal = I C = 1 801 = 2 3e" c = 4 401 = 5 10 " Self information= = 2 lografot) | 4 youth 7 (4) 13 pollet # Hash = 12 580 5 -Part = 1 Park - 1 Part = 4 3 & Park = 4 Self info dash = log (4)

Self info dash = log (4) entropy of that lode = 2 P; log (1)

| log 46 + 3; log 5 1 = 0.5 + 0.3 = 0.47 bits/sy

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Rate musque symbols

IR= AS x M(s)

Total time = 10+10+10+30+10+10+16

=100 msec

musage symbol = 7

85=4

100x 1 sec.

=40 = symbols (sec

TR=40x0.8

- 32 bits 1500

: Information rate is 322ts /se.