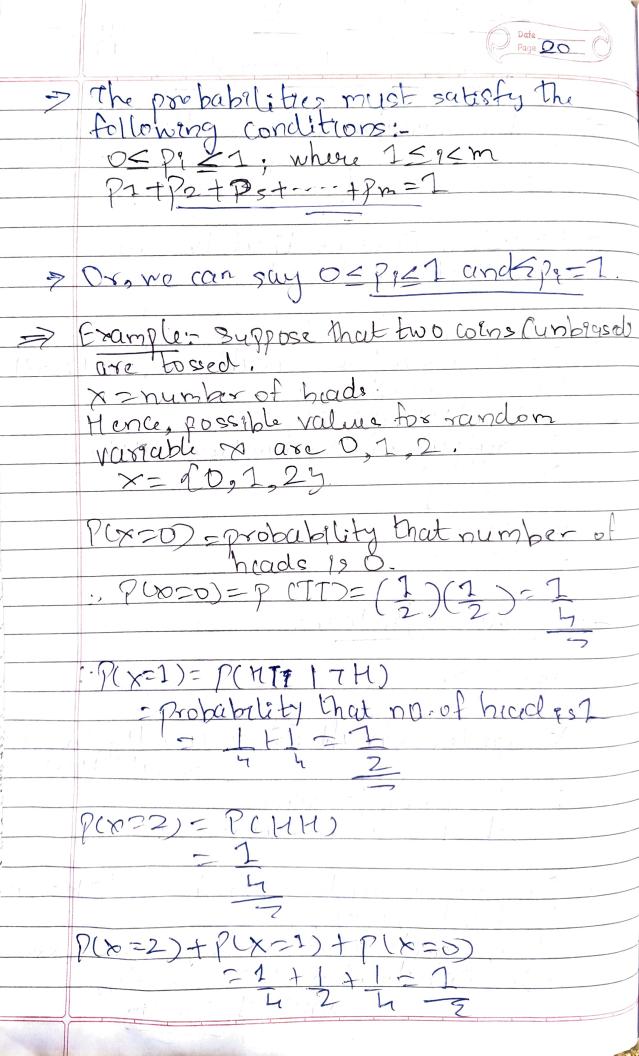
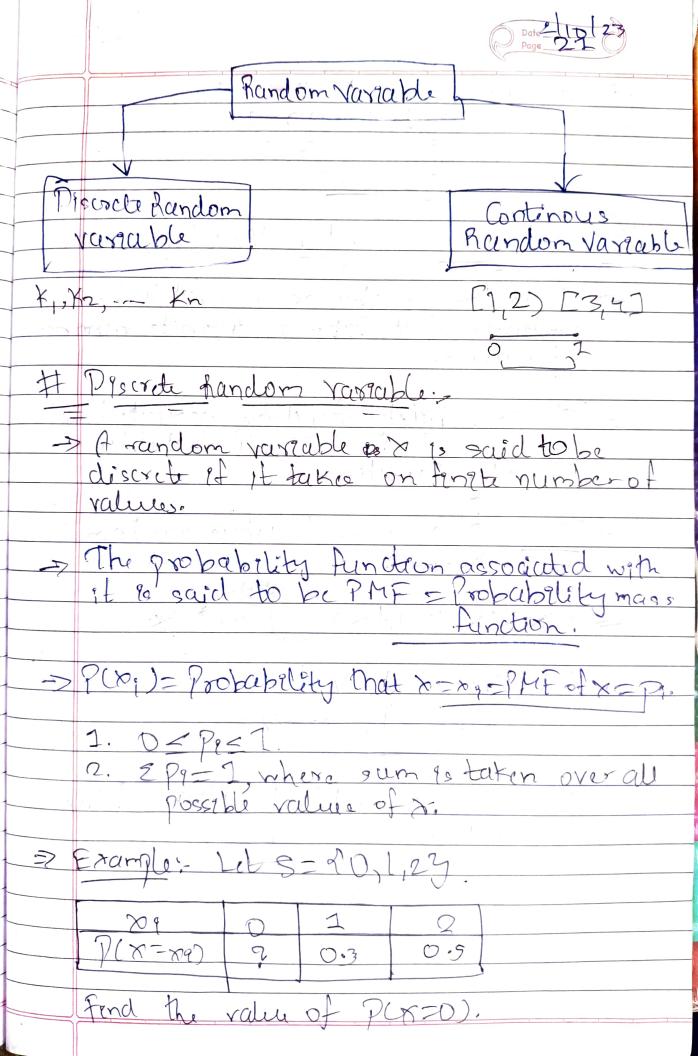
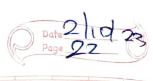
1.2 Random Varable = Morday => Random variable is basically a function which maps from the set of sample space to set of real numbers. -> Example: Suppose that two coens 7= number of heads To es a random jarable or function two, the sample space The putput of the function wellbe, X(HT)=1 x(TH)=]  $0 = (TT) \propto$ of formal definitions. 7:5-7R X= random vargable (It 9> usually dinoted using capital litters. Siset of sample space his set of recal numbers -> Suppose a random variable x takes "m"
different values; vith probabilities P(x=xx)=Pq;
where 1= pq < m







=> We know sum of P(yq)=1  $\frac{p(6) + p(1) + p(2) = 1}{p(0) + 0.3 + 0.5 = 1}$ :, P(D)=0.2 # Continuous handom Varauble; ontenous et it takes on enfinite number of values. The probability function associated with 120 said to be PDF= Probability

Pensity Function. -> PDF:- If x 12 continuous random variable: > P(x < x < x +d x) = ) f(x)\* dx  $\frac{1.0 < f(x) < 1.}{2. f(x) d x = 1.0000 d x}$ 

of the Proses said to be PDF of the distribution.



=> Example: Compute the value of P (1(2(2)) Such that

f(x)=q b, otherwise - Where, from a density function. Function f 18 said to be density function, then sum of all probabilities 18 equals to J. Integral value es 1 overall sample grave. KN3dN= K1 K [ xy ] B = 1 K(89 81)-1->K=4 · P(1<x<2)= 2) xx3.dx = K[x7]2 = 4 16-1 - 16 5 31 27 = 5