: Loop invariant holds to the
Mil the loop invariant hold just before the start of the
iteration when i= 1, where 1 <= 1 <= numTerms. It for all indices K where 1 <= 1 <= numTerms. It for all indices K where 0 = 1 <= 1 <= 1 <= 1 <= 1 <= 1 <= 1 <=
NX= Kax, the notice elements corresponding to each cotion is where CK=UN
ato local has been
eto Josel has been For every column index; in the range OKIXa[o].col, the value For every column index; in the range OKIXa[o].col = i YK, KKX.
For every column index) of the no. of times at kJocol== VK, KKX.
Now, a[1] col returns the column no. y of the to non-zero element
ala status No. Miller Children
a[i] value. We know, Oxyxa[o] col. some must increase the one more non-zero element of column y, we must increase the one more non-zero element of column y or pow [epms [a[i] . col] ++. We are
and by live source with
doing just that on line 11. next next on, i updates to bet). We can
doing just that on line 11. next next of the iteration, i updates to (x+1). We can Just before the start of the iteration, i updates to (x+1). We can easily see that YK, 14/2/2, when a[K]. colfy, row Terms[a[K].col]
easily see that $\forall K$, is not z, and if χ .
has not been updated when i= 2.
The clear that the loop invariant still holds.
ermination: The loop terminates when interpreted of alo].col, the invariant, for every column index; in the range Oxixalo].col == ; YKst.
invariant, for every column index of times a[K].col==; ** *K s-t. Value row Terms[i] is equal to the no. of times a[K].col==; ** *K s-t.
Value pow let-10810 1 to 2 per
13 M2 number 115. [] holds the no. of non-zero everents
[KKnumTerms.] [Solution of non-zero elements] [Solution of at] having column index; where Oxixa[o].col. We can conclude of at] having column index; where Oxixa[o].col of non-zero elements
of a navy amont recommended in the man of non-zero eleveras
of at I having column inderti, where URS (at of non-zero elements) this because by line 4, numberms holds the no. of non-zero elements of at I and they are stored in at I starting from index I
es al maragina
to num Terms