Video Activities-Week-8

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Video 13.1 (Loop join basics)

Graphical user interface, text

Description automatically generated

Cost = M + Pa\*M + N

1000+ 1000\*500 = 501000 I/Os (A outer)

Cost = 500 + 500\*1000 = 500500 I/Os (B outer)

With M=1000 in A and N=5 in B

Cost = M + M\*N = 1000 + 1000\*5 = 6000 I/Os (A outer)

Cost = N +N\*M = 5 + 5\*1000 = 5005 I/Os (B outer)

Now, for the given conditions, the smaller relation must be used as the outer relation.

Video 13.2

Graphical user interface, text

Description automatically generated

Cost = M + M\*Pa\*2

Cost for the above query becomes as follows: -

Cost = M + ((M\*Pa) \* cost of finding the matching rows

1000+(1000\*100\*2) = 200000 I/Os

Video 13.3

Text

Description automatically generated

Video 14.1 (Sort-Merge)

Graphical user interface, text

Description automatically generated

Here, both the relations are sorted on the join attribute (authors.id and books.id) after the step of merge.

Now, as far as cost is concerned: -

Cost = sqrt(M) < BP and sqrt(N)< BP = 3\*(M+N)

Cost = 3\*(1000+500)

Cost = 4500 I/Os

Video 14.2 (External Merge-Sort)

Disk Based sort – Relation A

Input File = (3,4) , (6,2), (9,4) , (8,7) , (5,6) , (3,1) (2)

Sorted run: - (2,3,44,6,7,8,9) , (1,2,3,5,6)

Disk Based Sort – Relation B

Input File – (5,4) , (1,3) , (8,5) , (2,9) , (3,8) , (2,2) , (4)

Sorted Run : - (1,2,3,4,5,5,8,9) , (2,2,3,4,8)