

Sort Merge and Hash Join- Analysis

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- Configuration of System

- DELL Inspiron 3501
- Intel i5 11th Gen 2.2 GHz
- 8 GB RAM
- 1 TB hard drive

- Input Relation R and S

○ R(X, Y) and S(Y, Z) generated using the generator given-

Specifications-

R- 40000 records (X- 10characters , Y-15 characters)

S-20000 records(Y-15 characters ,Z- 10 characters)

○ Thus the output natural join relation has approx 20,000rows.

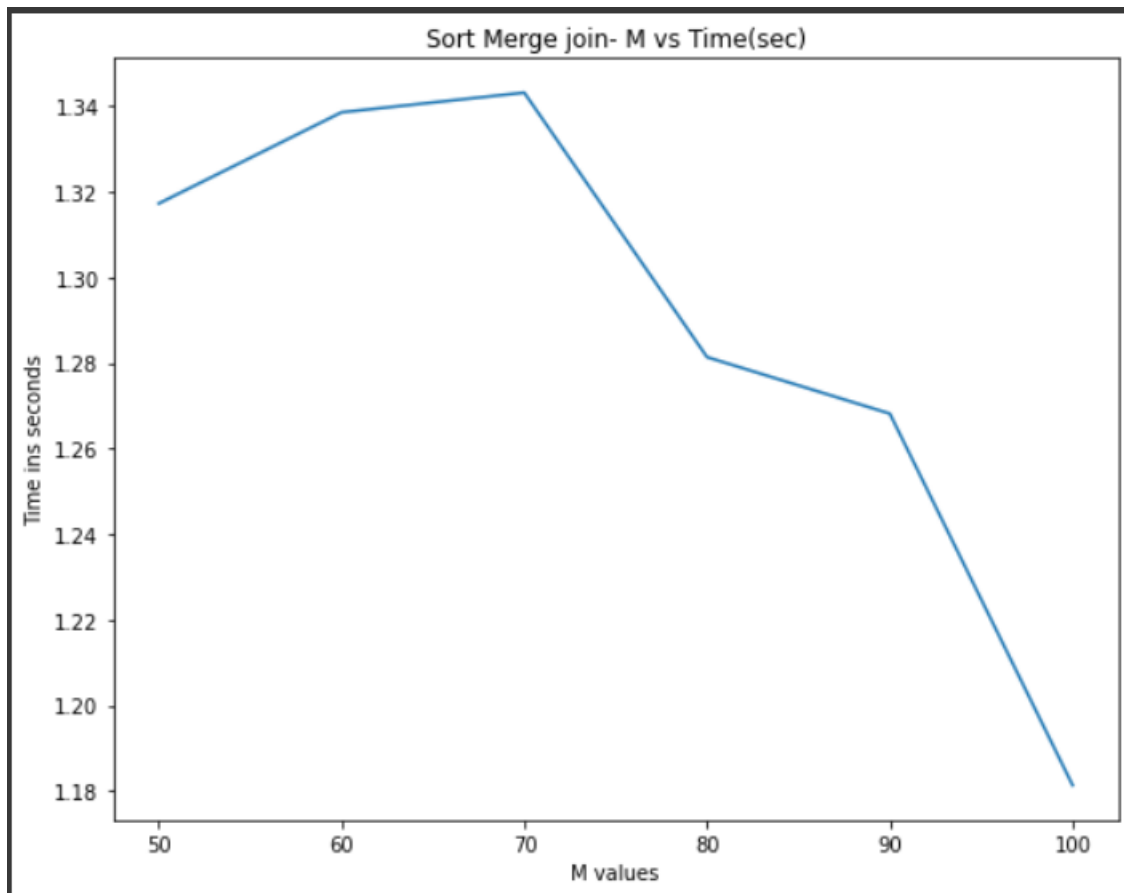
○ According to the assignment statement, each block is assumed to carry maximum 100 rows

Sort Merge Join-

M vs Time(in sec)

M value	Time Taken(second)
50	1.3172218799591064
60	1.3385334014892578
70	1.3431298732757568
80	1.281337022781372
90	1.2681350708007812
100	1.1813085079193115

Graph-



Hash join-

M vs Time(in sec)

M value	Time Taken(second)
50	0.22533226013183594
60	0.2108449935913086
70	0.23994803428649902
80	0.2056872844696045
90	0.20987439155578613
100	0.20665311813354492

Graph-

