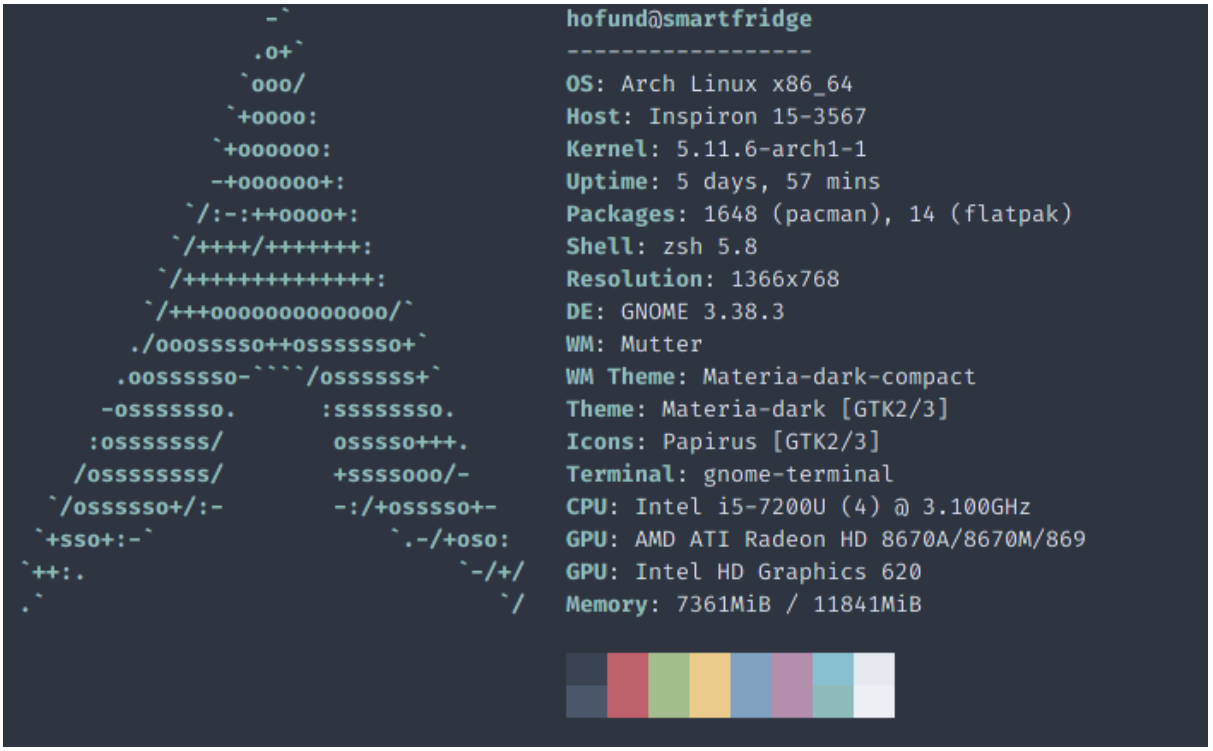
Analysis

System Configuration:



INPUT FILES:

- INPUTR = 5000 records
- INPUTS = 5000 records

OUTPUT FILE:

- INPUTR_INPUTS_join.txt

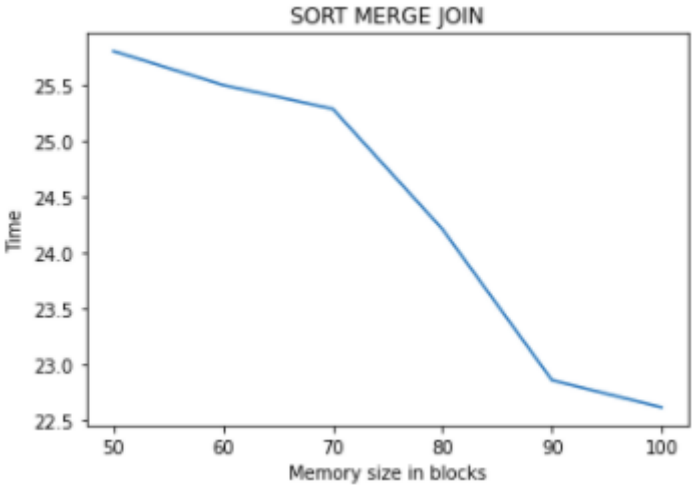
Sort Merge Join:

In sort merge phase 1 of K-way merge sort was implemented to create the sorted subfiles then from the min heap the min value was taken to compute the join.

Bottleneck condition: **B(R)+B(S)<M^2**

Memory(in blocks)	Time(in seconds)
50	25.8092839717865
60	25.505856037139893
70	25.292759895324707

80	24.216477155685425
90	22.863887548446655
100	22.621471166610718



Hash Join:

Universal hash was implemented to calculate the hash for the column used for join i.e. Y. After calculation of hash value for the Y attribute sublists were created according to the hash values. With the sublist join record were printed to the file that matched in both R and S

Bottleneck condition: **min(B(R),B(S))<M**

Memory(in blocks)	Time (in seconds)
50	36.126182317733765
60	33.504706621170044
70	33.212961196899414
80	33.17282032966614
90	32.327133893966675
100	31.954663276672363