Configuration of the System:

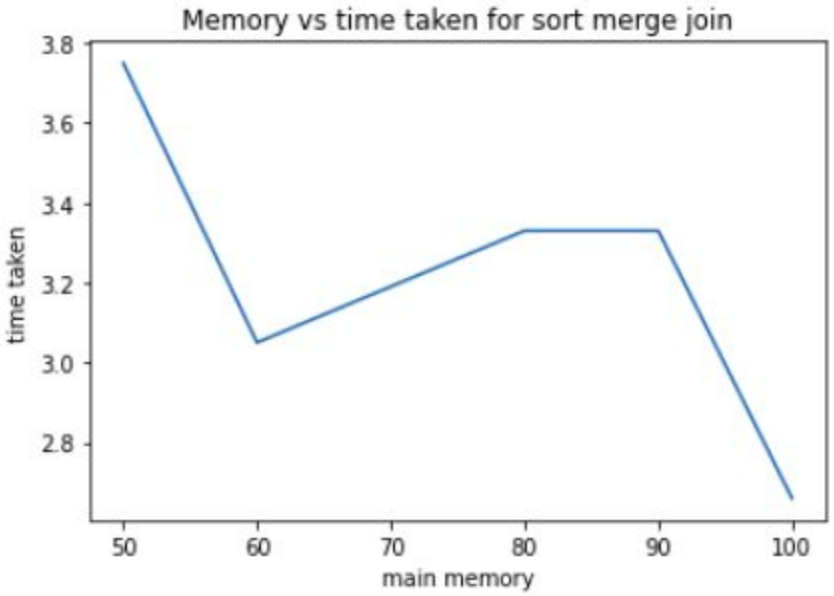
Architecture:	x86_64
CPU op-mode(s):	32-bit, 64-bit
Byte Order:	Little Endian
Address sizes:	39 bits physical, 48 bits virtual
CPU(s):	4
On-line CPU(s) list:	0-3
Thread(s) per core:	2
Core(s) per socket:	2
Socket(s):	1
NUMA node(s):	1
Vendor ID:	GenuineIntel
CPU family:	6
Model:	142
Model name:	Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz
Stepping:	9
CPU MHz:	800.090
CPU max MHz:	3100.0000
CPU min MHz:	400.0000

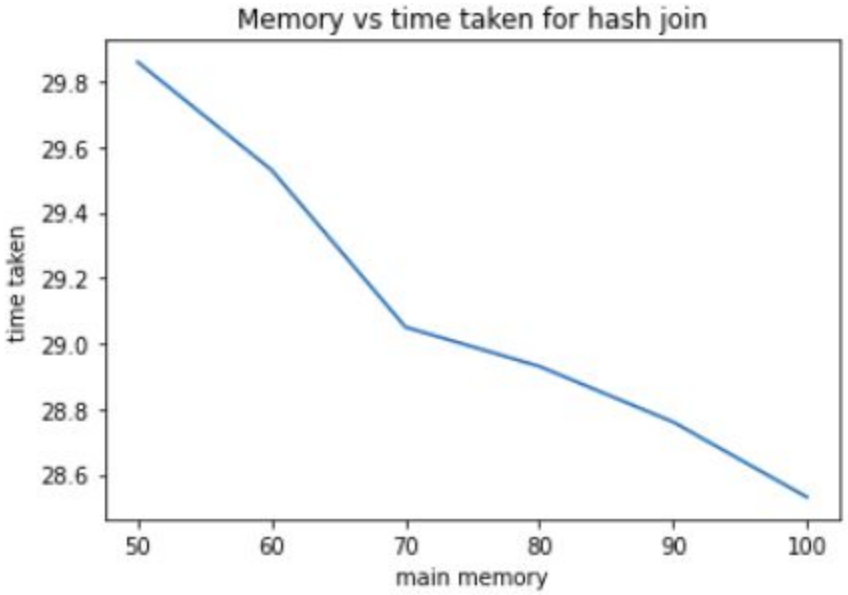
Analysis :

The input files are of 1.1MB(50k rows) each and the results are displayed below

Main memory	sort merge join
50	3.75
60	3.05
70	3.19
80	3.33
90	3.33
100	2.66

Main memory	hash join
50	29.86
60	29.53
70	29.05
80	28.93
90	28.76
100	28.53





Observations:

As the number of main memory blocks increases, the time taken decreases because we can load more tuples and perform join operation on large memory hence reading and writing time will be reduced, which eventually reduces the overall time taken.

The time taken for hash join is more compared to sort merge join