**Data Warehousing | Assignment # 3**

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20L-1113

BDS-5A

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**Part 1 (a):**

K=100

Table 1 Block Size = 2000

Table 2 Block Size = 2000

Basic Nested Loop Join: 2000 + (128000 x 2000)

Block Nested Loop Join: 2000 + (2000 x 2000)

Index Nested Loop Join: 2000 + {128000 x (1 + 1)}

Clustered Nested Loop Join: 2000 + {128000 x (1 + 1)}

Sort Merge Join: 2000 + (2000 x ceil (log (2000/1000))) + (2000 x ceil (log (2000/1000))) + (2000 + 2000)

Hash Join: 2000 + (2000 x ceil (log (2000/1000))) + (2000 + ceil (log (2000/1000))) + (2000 + 2000)

**Part 1 (b):**

K=4000

Table 1 Block Size = 2000

Table 2 Block Size = 2000

Basic Nested Loop Join: 2000 + (128000 x 2000)

Block Nested Loop Join: 2000 + (2000 x 2000)

Index Nested Loop Join: 2000 + {128000 x (1 + 1)}

Clustered Nested Loop Join: 2000 + {128000 x (1 + 1)}

Sort Merge Join: 2000 + 2000 + 2000 + (2000 + 2000)

Hash Join: 2000 + (2000 + 2000)

**Part 2 (a):**

K=100

Table 1 Block Size = 2000

Table 2 Block Size = 40000

Basic Nested Loop Join: 2000 + (128000 x 40000)

Block Nested Loop Join: 2000 + (2000 x 40000)

Index Nested Loop Join: 2000 + {128000 x (1 + 20)}

Clustered Nested Loop Join: 2000 + {128000 x (1 x 1)}

Sort Merge Join: 2000 + (2000 x ceil (log (2000/1000))) + (40000 x ceil (log (40000/1000))) + (2000 + 40000)

Hash Join: 2000 + (2000 x ceil (log (2000/1000))) + (40000 + ceil (log (40000/1000))) + (2000 + 40000)

**Part 2 (b):**

K=4000

Table 1 Block Size = 2000

Table 2 Block Size = 40000

Basic Nested Loop Join: 2000 + (128000 x 40000)

Block Nested Loop Join: 2000 + (2000 x 40000)

Index Nested Loop Join: 2000 + {128000 x (1 + 20)}

Clustered Nested Loop Join: 2000 + {128000 x (1 + 1)}

Sort Merge Join: 2000 + 2000 + (40000 x ceil (log (40000/1000))) + (2000 + 40000)

Hash Join: 2000 + (2000 + 40000)