**1.All of the stocks within a specified industry**

USE [Assign06]

GO

SET ANSI\_PADDING ON

GO

/\*\*\*\*\*\* Object: Index [Index\_industryName] Script Date: 7/31/2020 4:38:13 PM \*\*\*\*\*\*/

CREATE NONCLUSTERED INDEX [Index\_industryName] ON [dbo].[Industry]

(

[industryName] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, SORT\_IN\_TEMPDB = OFF, DROP\_EXISTING = OFF, ONLINE = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

GO

i. The name of the table to which the index applies: **Industry table**

ii. Whether the index is clustered or non-clustered: **non-clustered**

iii. Whether the index is unique or non-unique: **non-unique**

iv. The name(s) of the index key column(s): **industryName**

v. The names of any additional (non index key) columns that are included in the index: **none,** because the **industryId** is the primary key of the industry table, and we will use **industryId** to link to **stock table.**

vi. Your rationale for why the index was included: we can insert ***industryName***, and it will bring up the ***industryId***. Then ***industryId*** will link to the stock table, and can report the ***stockName*** and ***tickerSymbol*** back.

/\*\*\*\*\*\* Object: Index [index\_industryId] Script Date: 8/1/2020 7:47:39 PM \*\*\*\*\*\*/

CREATE NONCLUSTERED INDEX [index\_industryId] ON [dbo].[Stock]

(

[industryId] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, SORT\_IN\_TEMPDB = OFF, DROP\_EXISTING = OFF, ONLINE = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

GO

i. The name of the table to which the index applies: **Stock table**

ii. Whether the index is clustered or non-clustered: **non-clustered**

iii. Whether the index is unique or non-unique: **non-unique**

iv. The name(s) of the index key column(s): **industryId**

v. The names of any additional (non index key) columns that are included in the index: **none, because we do not need to put any attributes in non index key column for it to get the tickerSymbol attribute**

vi. Your rationale for why the index was included: we can insert ***industryName***, and it will bring up the ***industryId***. Then now we link ***industryId*** to Stock table, and can report the ***stockName*** and ***tickerSymbol*** back.

**2.Total number of shares for each order type for a particular stock during a specified timeframe**

/\*\*\*\*\*\* Object: Index [Index\_tickerSymbol] Script Date: 7/31/2020 4:43:07 PM \*\*\*\*\*\*/

CREATE NONCLUSTERED INDEX [Index\_tickerSymbol] ON [dbo].[Stock]

(

[tickerSymbol] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, SORT\_IN\_TEMPDB = OFF, DROP\_EXISTING = OFF, ONLINE = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

GO

i. The name of the table to which the index applies: **Stock table**

ii. Whether the index is clustered or non-clustered: **non-clustered**

iii. Whether the index is unique or non-unique: **non-unique**

iv. The name(s) of the index key column(s): **tickerSymbol**

v. The names of any additional (non index key) columns that are included in the index: **stockId**

vi. Your rationale for why the index was included: we can insert **tickerSymbol**, and it will bring up the **stockId**. Then **stockId** will link to the **Trade table**, and can report the **number of shares that were traded for each of those order types during the specified timeframe.**

/\*\*\*\*\*\* Object: Index [Index\_stockId\_timestamp] Script Date: 7/31/2020 4:45:35 PM \*\*\*\*\*\*/

CREATE NONCLUSTERED INDEX [Index\_stockId\_timestamp] ON [dbo].[Trade]

(

[stockId] ASC,

[timestamp] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, SORT\_IN\_TEMPDB = OFF, DROP\_EXISTING = OFF, ONLINE = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

GO

i. The name of the table to which the index applies: **Trade table**

ii. Whether the index is clustered or non-clustered: **non-clustered**

iii. Whether the index is unique or non-unique: **non-unique**

iv. The name(s) of the index key column(s): **stockId, timestamp**

v. The names of any additional (non index key) columns that are included in the index: **none, because orderTypeId is foreign key, it can link to OrderType by orderTypeId**

vi. Your rationale for why the index was included: we can insert **timestamp (range of time)**, and it will bring up the **orderTypeId**. Then **orderTypeId** will link to the **OrderType** **table**, and can report the **orderTypeName** back.

**3.Total amount of money for each order type for a particular client during a specified timeframe**

/\*\*\*\*\*\* Object: Index [Index\_emailAddress] Script Date: 7/31/2020 4:48:55 PM \*\*\*\*\*\*/

CREATE NONCLUSTERED INDEX [Index\_emailAddress] ON [dbo].[Client]

(

[emailAddress] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, SORT\_IN\_TEMPDB = OFF, DROP\_EXISTING = OFF, ONLINE = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON, OPTIMIZE\_FOR\_SEQUENTIAL\_KEY = OFF) ON [PRIMARY]

GO

i. The name of the table to which the index applies: **Client table**

ii. Whether the index is clustered or non-clustered: **non-clustered**

iii. Whether the index is unique or non-unique: **non-unique**

iv. The name(s) of the index key column(s): **emailAddress**

v. The names of any additional (non index key) columns that are included in the index: **none, because the primary key of the Client table is clientId. And clientId will link to Trade table, where orderTypeId can be linked to OrderType table.**

vi. Your rationale for why the index was included: we can insert **emailAddress,** and the table’s primary key is clientId, which enable us to link to **Trade table, where we can get order types, number of shares and price per share to calculate the total amount of money was traded for each order type by the client during the specified timeframe. The orderTypeId is a FK that can link to OrderType table, where gives us the orderTypeName**.