```sql
--1(a) change BPAlerts to BPStatus
EXEC sp_rename '[blu].[IC_BP].BPAlerts', 'BPStatus', 'COLUMN'

SELECT TOP 10 * from [blu].[IC_BP]
ORDER BY NEWID()
```

	ID	SystolicValue	Diastolicvalue	BPStatus	ObservedTime
1	47C234AD-C355-E611-80EC-5065F38B0171	128	85	1	2016-10-30 00:00:00.0000000
2	6587A327-A108-E611-811D-C4346BACD1A8	110	76	1	2016-05-08 00:00:00.0000000
3	4B87A327-A108-E611-811D-C4346BACD1A8	154	99	0	2016-06-15 00:00:00.0000000
4	3BEA1762-05E0-E511-8122-C4346BB59854	123	75	1	2016-04-29 00:00:00.0000000
5	0A87A327-A108-E611-811D-C4346BACD1A8	140	72	0	2016-06-06 00:00:00.0000000
6	29F9BF37-E61D-E611-8128-C4346BB59854	125	56	1	2016-08-29 00:00:00.0000000
7	0B6DB84D-A7F7-E511-811C-FC15B42886E8	125	91	0	2016-10-11 00:00:00.0000000
8	5060D306-D547-E611-80E6-5065F38BA151	138	96	0	2017-01-06 00:00:00.0000000
9	29F9BF37-E61D-E611-8128-C4346BB59854	121	59	1	2016-06-07 00:00:00.0000000
10	8F784C35-2945-E611-80E6-C4346BDC9111	116	74	1	2016-07-16 00:00:00.0000000

```sql
--1(b) change status to different types
update [blu].[IC_BP] set [BPStatus] = 1
where [BPStatus] = 'Hypo1'
update [blu].[IC_BP] set [BPStatus] = 1
where [BPStatus] = 'Normal'
update [blu].[IC_BP] set [BPStatus] = 0
where [BPStatus] = 'Hypo2'
update [blu].[IC_BP] set [BPStatus] = 0
where [BPStatus] = 'HTN1'
update [blu].[IC_BP] set [BPStatus] = 0
where [BPStatus] = 'HTN2'
update [blu].[IC_BP] set [BPStatus] = 0
where [BPStatus] = 'HTN3'

SELECT TOP 10 * from [blu].[IC_BP]
ORDER BY NEWID()
```

⊞ Results 📄 Messages

	ID	SystolicValue	Diastolicvalue	BPStatus	ObservedTime
1	77FA86B2-2D0B-E611-8120-C4346BAD2660	114	72	1	2016-08-30 00:00:00.0000000
2	77FA86B2-2D0B-E611-8120-C4346BAD2660	123	81	1	2016-05-03 00:00:00.0000000
3	6D87A327-A108-E611-811D-C4346BACD1A8	110	76	1	2016-05-05 00:00:00.0000000
4	A445C5F7-0C16-E611-8128-C4346BB59854	123	75	1	2016-08-25 00:00:00.0000000
5	CE86A327-A108-E611-811D-C4346BACD1A8	138	76	0	2016-06-03 00:00:00.0000000
6	77FA86B2-2D0B-E611-8120-C4346BAD2660	105	62	1	2016-05-08 00:00:00.0000000
7	1DEA1762-05E0-E511-8122-C4346BB59854	131	72	1	2016-08-24 00:00:00.0000000
8	A445C5F7-0C16-E611-8128-C4346BB59854	118	66	1	2016-08-30 00:00:00.0000000
9	B28A4B4F-A3E5-E511-811A-C4346BACD1A8	138	84	1	2017-01-10 00:00:00.0000000
10	BDFA86B2-2D0B-E611-8120-C4346BAD2660	143	98	0	2016-05-29 00:00:00.0000000

```sql
--1(c)
--select certain columns from [blu].[IC_BP] and [dbo].[Demographics], and inner
join them by ID, then make a new data set called blu.megDI
select A.*, B.[tri_enrollmentcompletedate] into [blu].[megDI] from [blu].[IC_BP] A
inner join [dbo].[Demographics] B
on A.ID=B.contactid
```

```sql
SELECT TOP 10 * from [blu].[megDI]
ORDER BY NEWID()
```

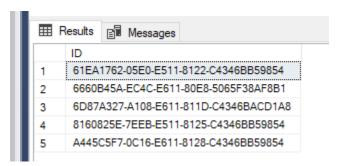|	ID	SystolicValue	Diastolicvalue	BPStatus	ObservedTime	tri_enrollmentcompletedate	weekdiff
1	6787A327-A108-E611-811D-C4346BACD1A8	122	80	1	2016-10-24 00:00:00.0000000	4/22/16	27
2	1DEA1762-05E0-E511-8122-C4346BB59854	117	68	1	2016-10-29 00:00:00.0000000	3/2/16	34
3	6D87A327-A108-E611-811D-C4346BACD1A8	132	80	1	2016-05-17 00:00:00.0000000	4/25/16	3
4	6660B45A-EC4C-E611-80E8-5065F38AF8B1	151	70	0	2016-07-19 00:00:00.0000000	7/19/16	0
5	61EA1762-05E0-E511-8122-C4346BB59854	144	92	0	2016-03-06 00:00:00.0000000	3/4/16	1
6	7787A327-A108-E611-811D-C4346BACD1A8	150	71	0	2016-10-29 00:00:00.0000000	5/9/16	24
7	E3E77E9D-5411-E611-811B-C4346BAC02E8	142	86	0	2016-12-14 00:00:00.0000000	5/13/16	31
8	66FCE6C4-6FE4-E511-811A-C4346BACD1A8	136	90	0	2016-05-11 00:00:00.0000000	3/7/16	9
9	EE87A7B0-7148-E611-80E7-5065F38B3241	149	90	0	2016-09-04 00:00:00.0000000	7/13/16	8
10	C0FDFEE3-D4E4-E511-8123-C4346BB59854	92	63	1	2016-10-07 00:00:00.0000000	3/8/16	30

```sql
--1(d)
--create a new column called weekdiff
alter table [blu].[megDI] add weekdiff nvarchar(100)
--use datediff function to calcute number of weeks between
tri_enrollmentcompletedate and ObservedTime
update [blu].[megDI] set weekdiff =
datediff(WEEK,TRY_CONVERT(DATETIME2,tri_enrollmentcompletedate),ObservedTime)

--select weekdiff >= 0 and weekdiff <=12
select * into [blu].[weekdiff] from [blu].[megDI]
where weekdiff >= 0 and weekdiff <=12
order by ID, ObservedTime

select * from [blu].[weekdiff]

--create a new column which is the integer value for BPStatus
alter table [blu].[weekdiff] add bpst float
update [blu].[weekdiff] set bpst=BPStatus

--calcute BP average for each patient, then group by and sort by ID
select ID, weekdiff, cast(avg(bpst) as decimal(10,1)) as BPavg into [blu].[bpavg]
from [blu].[weekdiff]
group by ID,weekdiff
order by ID,weekdiff

SELECT TOP 10 * from [blu].[bpavg]
ORDER BY NEWID()
```

	ID	weekdiff	BPavg
1	8160825E-7EEB-E511-8125-C4346BB59854	11	1.0
2	C0FDFEE3-D4E4-E511-8123-C4346BB59854	3	1.0
3	66FCE6C4-6FE4-E511-811A-C4346BACD1A8	6	0.0
4	66F2FF77-A417-E611-811C-C4346BAC02E8	2	1.0
5	6D87A327-A108-E611-811D-C4346BACD1A8	6	0.6
6	6787A327-A108-E611-811D-C4346BACD1A8	1	1.0
7	E950A85A-1B4A-E611-80E8-5065F38B0171	9	0.5
8	73D67666-0A0E-E611-811E-C4346BACD1A8	3	0.0
9	6F0568E3-B3AA-E611-80ED-5065F38A19E1	1	1.0
10	1EB7F1E3-BE43-E611-80E6-5065F38BA151	2	1.0

```sql
--1(e)
--select baseline and 12 week
```

```sql
select ID,weekdiff,BPavg from [blu].[bpavg]
where weekdiff = 0 or weekdiff = 12

select count(weekdiff) from [blu].[bpavg]
where [weekdiff] = 0

select count(weekdiff) from [blu].[bpavg]
where [weekdiff] = 12
--There are 35 person with baseline and 28 person with  12 week
SELECT TOP 10 * from [blu].[bpavg]
ORDER BY NEWID()
```

Results | **Messages**

	(No column name)
1	35

	(No column name)
1	28

	ID	weekdiff	BPavg
1	184E5183-C484-E611-80EF-C4346BDC2111	2	1.0
2	47C234AD-C355-E611-80EC-5065F38B0171	2	0.5
3	5693A7B0-7148-E611-80E7-5065F38B3241	6	0.1
4	7BC7C4CC-B821-E611-811F-C4346BACD1A8	4	0.5
5	47C234AD-C355-E611-80EC-5065F38B0171	10	0.9
6	0A87A327-A108-E611-811D-C4346BACD1A8	6	1.0
7	B686A7B0-7148-E611-80E7-5065F38B3241	6	1.0
8	6660B45A-EC4C-E611-80E8-5065F38AF8B1	5	0.7
9	7787A327-A108-E611-811D-C4346BACD1A8	2	0.0
10	75E4047C-FE1C-E611-8122-C4346BAD2660	2	1.0

```sql
--1(f)
--select baseline and BP status = 0
select ID,[BPStatus] into [blu].[f1] from [blu].[weekdiff] where [weekdiff]=0 and
BPStatus=0
--select 12 weeks and BP status = 1
select ID,[BPStatus] into [blu].[f2] from [blu].[weekdiff] where [weekdiff]=12 and
BPStatus=1
--match the ID for the two selected datasetes
select [blu].[f1].* into [blu].[f3] from [blu].[f1]
inner join [blu].[f2]
on [blu].[f1].ID=[blu].[f2].ID

select distinct ID from [blu].[f3]
--There are only 5 people from baseline with BP status is 0 to 12 weeks with BP
status change to 1
```

	ID
1	61EA1762-05E0-E511-8122-C4346BB59854
2	6660B45A-EC4C-E611-80E8-5065F38AF8B1
3	6D87A327-A108-E611-811D-C4346BACD1A8
4	8160825E-7EEB-E511-8125-C4346BB59854
5	A445C5F7-0C16-E611-8128-C4346BB59854

--2

```sql
--inner join all datasets that we need into blu.final
select A.*,B.*,C.* into [blu].[final] from [dbo].[ChronicConditions] A
inner join [dbo].[Text] B
on A.tri_patientid=B.tri_contactId
inner join [dbo].[Demographics] C
on A.tri_patientid=C.contactid

select * from  [blu].[final]

--drop tri_patientid and tri_contactId for depulicating
alter table [blu].[final] drop column tri_patientid
alter table [blu].[final] drop column tri_contactId

--creat data set d by selecting the latest date and group by id
select tri_patientid, max(TextSentDate)
as TextSentLatestDate into [blu].[d] from [blu].[final]
group by tri_patientid

select * from [blu].[d]

--merge the final data set and d and on TextSentDate, TextSentLatestDate and
contactid, tri_patientid
select A.*,B.* from [blu].[final] A
inner join [blu].[d] B
on A.TextSentDate=B.TextSentLatestDate and
A.contactid=B.tri_patientid
```

	contactid	TextSentLatestDate	tri_name	SenderName	TextSentDate	gendercode	tri_age	parentcontactidname	tri_imaginecareenrollmentstatus	address1_stateorprovince	tri_imaginecareenrollmen
1	03FD86B2-2D0B-E611-8120-C4346BAD2660	2017-01-27 00:00:00.000	Activity Monitoring	System	2017-01-27 00:00:00.000	2	56	NULL	167410011	NH	4/28/16
2	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Diabetes	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
3	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Congestive Heart Failure	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
4	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Hypertension	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
5	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	COPD	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
6	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Activity Monitoring	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
7	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Diabetes	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
8	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Congestive Heart Failure	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
9	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	Hypertension	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16
10	073A0978-98C7-E611-80F5-5065F38A3B81	2016-12-21 00:00:00.000	COPD	System	2016-12-21 00:00:00.000	1	32	NULL	167410011	LA	12/21/16

https://github.com/BoranLu1993/Data_Wrangling_Project_and_Tasks