**SQL Answer: Day 2**

1. Simple Queries

--Simple Queries / Ex 1: 459 rows

**select**

EventName,

EventDate

**from**

tblEvent

**order** **by**

EventDate **desc**;

--Simple Queries / Ex 2

**select**

**top** 5 EventName,

EventDetails

**from**

tblEvent te

**order** **by**

EventDate **asc** ;

--Simple Queries / Ex 3:

**select**

**top** 3

CategoryID,

CategoryName

**from**

tblCategory tc

**order** **by**

CategoryName **desc**;

--Simple Queries / Ex 4: Click on the Text instead of Grid to switch

**select**

**top** 2 EventName,

EventDetails

**from**

tblEvent te

**order** **by**

EventDate **asc** ;

**select**

**top** 2 EventName,

EventDetails

**from**

tblEvent te

**order** **by**

EventDate **desc**;

--Use WHERE / Ex 1:

**select**

\*

**from**

tblEvent te

**where**

CategoryID = 11

--Use WHERE / Ex 2: 2 rows

**select**

\*

**from**

tblEvent te

**where**

**year**(EventDate) = 2005

**and** **month**(EventDate) = 2

--Use WHERE / Ex 3: 2 rows

**select**

\*

**from**

tblEvent te

**where**

EventName **like** '%Teletubbies %'

**or** EventName **like** '%Pandy %'

--Use WHERE / Ex 4: 11 rows, 13 rows without the >= 1970 filter

**select**

\*

**from**

tblEvent te

**where**

(CountryID **in** (8, 22, 30, 35)

**or** EventDetails **like** '%Water %'

**or** CategoryID = 4)

**and** **year**(EventDate) >= 1970

--Use WHERE / Ex 5: 4 rows

**select**

\*

**from**

tblEvent te

**where**

CategoryID != 14

**and** EventDetails **like** '%Train%'

--Use WHERE / Ex 6: 6 rows

**select**

\*

**from**

tblEvent te

**where**

CountryID = 13

**and** EventName **not** **like** '%Space%'

**and** EventDetails **not** **like** '%Space%'

--Use WHERE / Ex 7: 91 rows

**select**

\*

**from**

tblEvent te

**where**

CategoryID **in** (5, 6)

**and** EventDetails **not** **like** '%War%'

**and** EventDetails **not** **like** '%Death%'

--Basic joins / Ex 1: 13 rows

**SELECT**

tblAuthor.AuthorName,

tblEpisode.Title,

tblEpisode.EpisodeType

**FROM**

tblAuthor

**INNER** **JOIN** tblEpisode **ON**

tblAuthor.AuthorId = tblEpisode.AuthorId

**WHERE**

tblEpisode.EpisodeType **LIKE** '%special%'

**ORDER** **BY**

tblEpisode.Title

--Basic joins / Ex 2: 15 rows

**select**

td.DoctorName ,

te.Title

**from**

tblEpisode te

**left** **join** tblDoctor td **on**

te.DoctorId = td.DoctorId

**where**

**year**(te.EpisodeDate) = 2010

--Basic joins / Ex 3: 459 rows

**select**

CountryName ,

eventname,

eventdate

**from**

tblCountry tc

**inner** **join** tblEvent te **on**

tc.CountryID = te.CountryID

**order** **by**

eventdate

--Basic joins / Ex 4: 5 rows

**select**

te.EventName,

tc.CountryName,

tc2.ContinentName

**from**

tblEvent te

**left** **join** tblCountry tc **on**

te.CountryID = tc.CountryID

**left** **join** tblContinent tc2 **on**

tc.ContinentID = tc2.ContinentID

**where**

tc.CountryName **=** 'Russia'

**or** tc2.ContinentName **=** 'Antarctic'

--Basic joins / Ex 5:

--Inner join, 459 rows

**select**

EventName ,

EventDate ,

tc.CategoryName

**from**

tblEvent te

**inner** **join** tblCategory tc **on**

te.CategoryID = tc.CategoryID;

--Full outer join, 461 rows

**select**

EventName ,

EventDate ,

tc.CategoryName

**from**

tblEvent te

**full** **outer** **join** tblCategory tc **on**

te.CategoryID = tc.CategoryID

**where** EventID **is** **null**;

--Basic joins / Ex 6: 16 rows

**select**

Title,

authorname,

enemyname

**from**

tblEpisode te

**inner** **join** tblAuthor ta **on**

te.AuthorId = ta.AuthorId

**inner** **join** tblEpisodeEnemy tee **on**

te.EpisodeId = tee.EpisodeId

**inner** **join** tblEnemy te2 **on**

tee.EnemyId = te2.EnemyId

**where**

te2.EnemyName = 'Daleks'

--Basic joins / Ex 7: 2 rows

**select**

ta.AuthorName ,

len(ta.AuthorName),

te.Title ,

len(te.Title),

td.DoctorName ,

len(td.DoctorName),

te2.EnemyName ,

len(te2.EnemyName),

len(ta.AuthorName) + len(te.Title) + len(td.DoctorName) + len(te2.EnemyName) **as** [total length]

**from**

tblEpisode te

**inner** **join** tblAuthor ta **on**

te.AuthorId = ta.AuthorId

**inner** **join** tblDoctor td **on**

te.DoctorId = td.DoctorId

**inner** **join** tblEpisodeEnemy tee **on**

te.EpisodeId = tee.EpisodeId

**inner** **join** tblEnemy te2 **on**

tee.EnemyId = te2.EnemyId

**where** len(ta.AuthorName) + len(te.Title) + len(td.DoctorName) + len(te2.EnemyName) < 40

--Basic joins / Ex 8: 1 row

**select**

\*

**from**

tblCountry tc

**full** **outer** **join** tblEvent te **on**

tc.CountryID = te.CountryID

**where**

te.EventID **is** **null**

--Aggregation and grouping / Ex 1: 25 rows

**select**

ta.AuthorName,

**count**(**distinct** EpisodeId) **as** [Count Episode],

**min**(EpisodeDate) **as** [Earliest episode date],

**max**(EpisodeDate) **as** [Latest episode date]

**from**

tblEpisode te

**inner** **join** tblAuthor ta **on**

te.AuthorId = ta.AuthorId

**group** **by**

ta.AuthorName

**order** **by**

**count**(**distinct** EpisodeId) **desc**

--Aggregation and grouping / Ex 2: 18 rows, if use left join it should return 20 rows

**select**

tc.CategoryName ,

**count**(**distinct** te.EventID) **as** [Count event]

**from**

tblCategory tc

**inner** **join** tblEvent te **on**

tc.CategoryID = te.CategoryID

**group** **by**

tc.CategoryName

**order** **by**

**count**(**distinct** te.EventID) **desc**

--Aggregation and grouping / Ex 3:

**select**

**count**(**distinct** EventID) **as** [Number of events],

**min**(EventDate) **as** [First Date],

**max**(EventDate) **as** [Last Date]

**from**

tblEvent te;

--Aggregation and grouping / Ex 4: 42 rows

**select**

tc2.ContinentName ,

tc.CountryName ,

**count**(**distinct** te.EventID) **as** [Number of events]

**from**

tblEvent te

**inner** **join** tblCountry tc **on**

te.CountryID = tc.CountryID

**inner** **join** tblContinent tc2 **on**

tc2.ContinentID = tc.ContinentID

**group** **by**

tc2.ContinentName ,

tc.CountryName;

--Aggregation and grouping / Ex 5: 4 rows

**select**

ta.AuthorName ,

td.DoctorName ,

**count**(**distinct** te.EpisodeId) **as** [Number of episodes]

**from**

tblEpisode te

**inner** **join** tblAuthor ta **on**

te.AuthorId = ta.AuthorId

**inner** **join** tblDoctor td **on**

te.DoctorId = td.DoctorId

**group** **by**

ta.AuthorName ,

td.DoctorName

**having**

**count**(**distinct** te.EpisodeId) > 5

**order** **by**

**count**(**distinct** te.EpisodeId) **desc**

--Aggregation and grouping / Ex 6: 4 rows

**select**

**year**(te.EpisodeDate) **as** [Episode Year],

te2.EnemyName,

**count**(**distinct** te.EpisodeId) **as** [Episodes]

**from**

tblEpisode te

**inner** **join** tblEpisodeEnemy tee **on**

te.EpisodeId = tee.EpisodeId

**inner** **join** tblEnemy te2 **on**

tee.EnemyId = te2.EnemyId

**inner** **join** tblDoctor td **on**

te.DoctorId = td.DoctorId

**where** **year**(td.BirthDate) < 1970

**group** **by**

**year**(te.EpisodeDate) ,

te2.EnemyName

**having**

**count**(**distinct** te.EpisodeId) > 1

**order** **by**

**count**(**distinct** te.EpisodeId) **desc;**

--Aggregation and grouping / Ex 7: 12 rows without nulls, 14 rows with nulls

**select**

**left**(tc.CategoryName, 1),

**count**(**distinct** te.EventID) **as** [Number of events],

**avg**(len(EventName)) **as** [Average event name length]

**from**

tblEvent te

**inner** **join** tblCategory tc **on**

te.CategoryID = tc.CategoryID

**group** **by**

**left**(tc.CategoryName, 1)

**order** **by**

**avg**(len(EventName)) **desc;**

--Aggregation and grouping / Ex 8:

--Because 21st century starts from 2001 so we need to – 1.

**select**

**concat**(1 + (**year**(EventDate) - 1) / 100,

**case** **when** **right**(1 + (**year**(EventDate) - 1) / 100, 1) = 1

**then** 'st'

**when** **right**(1 + (**year**(EventDate) - 1) / 100, 1) = 2

**then** ' nd'

**when** **right**(1 + (**year**(EventDate) - 1) / 100, 1) = 3

**then** ' rd'

**else** 'th'

**end**,

' century')

**as** century,

**count**(**distinct** EventID) **as** [Number of events]

**from**

tblEvent te

**group** **by**

1 + (**year**(EventDate) - 1) / 100;