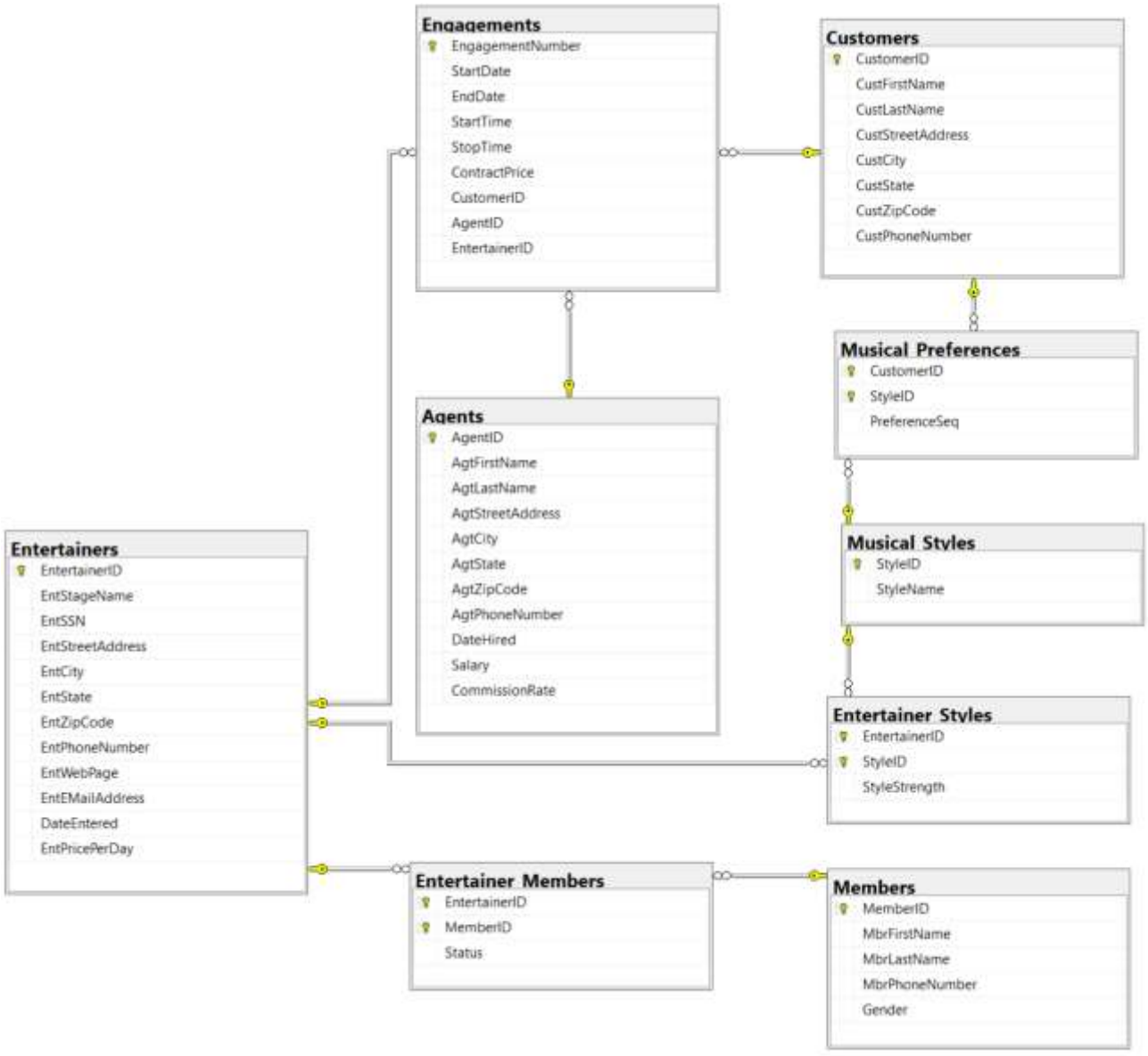
Introduction EntertainmentAgency

This database is designed to manage entertainers, agents, customers, and bookings. You would use a similar design to handle event bookings or hotel reservations.

The database handles scheduling of entertainers with customers. We list all the styles of music that each entertainer plays. We also have a table that contains the musical preferences of each customer.

You can see that the Musical_Preferences table contains a column to rank the customer preferences using a sequence number. In this database, a 1 indicates the customer's first preference, a 2 the second preference, and so on. There is also a column in the Entertainer_Styles table that lists for each style that an entertainer can play the relative strength of that style. For example, customer Zachary Johnson has specified a preference for Rhythm and Blues, Jazz, and Salsa in that order. Entertainer Jazz Persuasion says they focus on Rhythm and Blues, Salsa, and Jazz in that order.

- Download the script EntertainmentAgency.sql from Chamilo and execute
- Create the Database Diagram



SQL Review

1. There are how many different musical Styles?

	NumberOfMusicalStyles
1	25

2. What is the number of available entertainers per style?

	StyleID	styleName	NumberOfEntertainers
1	3	60's Music	2
2	4	70's Music	1
3	6	Country	2
4	7	Classical	3
5	8	Classic Rock & Roll	1
6	10	Contemporary	2
7	11	Country Rock	1
8	13	Folk	2
9	14	Chamber Music	2
10	15	Jazz	2
11	17	Motown	1
12	19	Rhythm and Blues	2
13	20	Show Tunes	2
14	21	Standards	3
15	22	Top 40 Hits	2
16	23	Variety	2
17	24	Salsa	2

3. What are the members that belong to more than 1 entertainer?

	memberID	MbrName	NumberOfEntertainers
1	102	Suzanne Viescas	2
2	103	Gary Hallmark	2
3	104	Jeffrey Davidson	2
4	105	Robert Brown	2
5	107	Sara Sheskey	2
6	112	Kim Smith	2
7	114	George Johnson	2
8	117	Luke Patterson	2
9	118	Janice Davidson	2
10	120	Michael Hernandez	3
11	121	Katherine Smith	3
12	123	Susan Davidson	2
13	124	Caroline Viescas	2

4. What is the number of engagements per year and per entertainer? Use StartDate to determine the year. Order on the number of engagements in descending way. The image below shows only a part of the resultset.

	EntertainerID	YearEngagement	NumberOfEngagements
1	1008	2015	9
2	1001	2015	7
3	1013	2015	7
4	1003	2015	6
5	1008	2016	6
6	1010	2016	6
7	1002	2015	5
8	1006	2015	5
9	1007	2015	5
10	1011	2015	5
11	1004	2016	5
12	1006	2016	5
13	1001	2016	4
14	1004	2015	4
15	1005	2015	4

5. What is the total revenue for each entertainer per year? Use contractprice to calculate the revenue. Order on the total revenue in descending way. The image below shows only a part of the resultset.

	EntertainerID	YearEngagement	TotalRevenue
1	1008	2016	20280,00
2	1008	2015	13800,00
3	1003	2015	11820,00
4	1007	2015	8500,00
5	1013	2015	7910,00
6	1006	2015	7750,00
7	1010	2016	7200,00
8	1013	2016	7160,00
9	1006	2016	6850,00
10	1001	2015	6650,00
11	1007	2016	6375,00
12	1003	2016	5330,00
13	1001	2016	4430,00
14	1010	2015	4350,00
15	1002	2015	3940,00

6. How many entertainers were entered per year? Order by year in ascending way.

	YearEntered	NumberOfEntertainers
1	1995	3
2	1996	4
3	1997	3
4	1998	3

7. Give for each agent the total income per year. An agent has a salary and a commission on the contractprice. Round the result to 2 decimals.

	AgentID	AgtName	YearEngagement	TotalSalary
1	1	William Thompson	2015	35510
2	1	William Thompson	2016	35285,8
3	2	Scott Johnson	2015	27105,6
4	2	Scott Johnson	2016	27163,2
5	3	Carol Viescas	2015	30912,5
6	3	Carol Viescas	2016	30327,5
7	4	Karen Smith	2015	22664,12
8	4	Karen Smith	2016	22358,6
9	5	Marianne Davidson	2015	25005,13
10	5	Marianne Davidson	2016	25013,45
11	6	John Kennedy	2015	33099
12	6	John Kennedy	2016	34367,1
13	7	Caleb Viescas	2015	22336,6
14	7	Caleb Viescas	2016	22235,98
15	8	Maria Patterson	2015	30337,4
16	8	Maria Patterson	2016	30175,6

8. What is the number of male and female entertainers.

	Gender	NumberOfMembers
1	NULL	1
2	F	12
3	M	12

Extension: Gender = NULL is perhaps an entertainer that didn't want to reveal his gender. Change the previous solution into the following solution.

	Gender	NumberOfMembers
1	X	1
2	F	12
3	M	12

9. What is the average number of members per entertainer per musical style. Only take into account StyleStrength = 1. Order by the average number of members in descending way.

	StyleID	StyleName	AverageNumberOfMembers
1	3	60's Music	6
2	6	Country	5
3	11	Country Rock	5
4	15	Jazz	4
5	22	Top 40 Hits	4
6	23	Variety	4
7	20	Show Tunes	3
8	19	Rhythm and Blues	2
9	13	Folk	1
10	14	Chamber Music	1

10. What is number of entertainers each agent already worked with?

	AgentID	AgtName	NumberOfEntertainers
1	1	William Thompson	11
2	2	Scott Johnson	5
3	3	Carol Viescas	10
4	4	Karen Smith	10
5	5	Marianne Davidson	10
6	6	John Kennedy	8
7	7	Caleb Viescas	6
8	8	Maria Patterson	8

11. What is number of agents each entertainer already worked with?

	EntertainerID	EntStageName	NumberOfAgents
1	1001	Carol Peacock Trio	5
2	1002	Topazz	6
3	1003	JV & the Deep Six	6
4	1004	Jim Glynn	5
5	1005	Jazz Persuasion	6
6	1006	Modern Dance	7
7	1007	Coldwater Cattle Company	6
8	1008	Country Feeling	6
9	1010	Saturday Revue	5
10	1011	Julia Schnebly	5
11	1012	Susan McLain	5
12	1013	Caroline Coie Cuartet	6

12. What are the engagements for which the contractprice is 50% more expensive than the number of days * EntPricePerDay?

	EngagementNumber	AgentID	ContractPrice	CalculatedPrice
1	6	7	2300,00	1400,00
2	11	4	950,00	560,00
3	14	1	2750,00	1680,00
4	24	4	1940,00	1225,00
5	48	1	950,00	550,00
6	58	2	770,00	480,00
7	62	2	500,00	250,00
8	68	1	1670,00	750,00
9	82	8	950,00	550,00
10	90	5	320,00	175,00
11	91	3	770,00	480,00
12	97	8	110,00	60,00
13	99	6	14105,00	8960,00
14	107	4	200,00	120,00

13. What is the average price per musical style based on EntPricePerDay. Only take into account StyleStrength = 1. Order by average price in descending way.

	StyleID	StyleName	AveragePrice
1	6	Country	280,00
2	11	Country Rock	275,00
3	3	60's Music	275,00
4	15	Jazz	250,00
5	22	Top 40 Hits	250,00
6	23	Variety	250,00
7	20	Show Tunes	175,00
8	19	Rhythm and Blues	122,50
9	14	Chamber Music	117,50
10	13	Folk	67,50

14. What are the music styles for which we don't have any entertainer available in the database?

	StyleName
1	40's Ballroom Music
2	50's Music
3	80's Music
4	90's Music
5	Elvis
6	Karaoke
7	Modern Rock
8	Rap

SQL 2 TIN

1. What are the entertainers without any engagements up till now and which are available in the database.

	EntertainerID	EntStageName
1	1009	Katherine Ehrlich

2. What are the entertainers without any engagements for 2016

	EntertainerID	EntStageName
1	1009	Katherine Ehrlich

3. What are the music styles for which we don't have any entertainer available in the database?

	StyleName
1	40's Ballroom Music
2	50's Music
3	80's Music
4	90's Music
5	Elvis
6	Karaoke
7	Modern Rock
8	Rap

4. What are the music styles for which we don't have any entertainer available in the database with StyleStrength = 1?

	StyleName
1	40's Ballroom Music
2	50's Music
3	70's Music
4	80's Music
5	90's Music
6	Classic Rock & Roll
7	Classical
8	Contemporary
9	Elvis
10	Karaoke
11	Modern Rock
12	Motown
13	Rap
14	Salsa
15	Standards

5. What is the musical style for which we have most entertainers available in the database? Don't take into account the style strength.

	StyleID	StyleName	NumberOfEntertainers
1	7	Classical	3
2	21	Standards	3

6. Who is the most important customer based on the number of engagements?

	CustomerID	CustName	NumberOfEngagements
1	10001	Doug Steele	8
2	10005	Elizabeth Hallmark	8
3	10009	Sarah Thompson	8

7. What are the customers that have booked the same entertainer every year.

	CustomerID	EntertainerID	NumberOfYears
1	10002	1008	2
2	10002	1013	2
3	10003	1006	2
4	10004	1005	2
5	10004	1012	2
6	10005	1008	2
7	10006	1008	2
8	10007	1004	2
9	10007	1013	2
10	10009	1004	2
11	10009	1005	2
12	10010	1006	2
13	10010	1007	2
14	10010	1010	2
15	10013	1002	2
16	10015	1011	2

8. For each customer, provide a list of entertainers that they have booked, but whose music styles do not belong to their preferences. The image below shows only a part of the resultset.

	CustomerID	EntertainerID
1	10001	1002
2	10001	1003
3	10001	1005
4	10001	1007
5	10001	1008
6	10002	1007
7	10002	1010
8	10002	1011
9	10002	1013
10	10003	1006

More elaborate

	CustomerID	CustName	EntertainerID	EntStageName
1	10001	Doug Steele	1002	Topazz
2	10001	Doug Steele	1003	JV & the Deep Six
3	10001	Doug Steele	1005	Jazz Persuasion
4	10001	Doug Steele	1007	Coldwater Cattle Company
5	10001	Doug Steele	1008	Country Feeling
6	10002	Deb Smith	1007	Coldwater Cattle Company
7	10002	Deb Smith	1010	Saturday Revue
8	10002	Deb Smith	1011	Julia Schnebly
9	10002	Deb Smith	1013	Caroline Coie Cuartet
10	10003	Ben Clothier	1006	Modern Dance

9. What is the number of engagements per season? Use Startdate to determine the season.
   Winter : december + january + february / Spring = march + april + may / Summer = …
   Order by the number of engagements in ascending way.

	Season	NumberOfEngagements
1	Spring	1
2	Autumn	45
3	Winter	65

10. We are looking for a Salsa group. Which entertainer is the cheapest one?

	EntertainerID	EntStageName	EntPricePerDay
1	1005	Jazz Persuasion	125,00

11. We are looking for a Salsa group. Which entertainer is the most popular one?

	EntertainerID	EntStageName
1	1006	Modern Dance

12. A member can be part of more than 1 entertainer. We assume that the contractprice per engagement is distributed fairly among all members of an entertainer. Calculate the total revenue per member. Order by the total revenue per member in descending way.
    The image below shows only a part of the resultset.
    Tip: calculate the number of members per entertainer first.

	MemberID	MbrName	IncomePerMember
1	114	George Johnson	10583,50
2	105	Robert Brown	9791,00
3	103	Gary Hallmark	9674,333
4	120	Michael Hernandez	8786,6662
5	118	Janice Davidson	7343,3326
6	115	Joe Smith	6816,00
7	111	Kathryn Patterson	6816,00
8	107	Sara Sheskey	6668,3326
9	112	Kim Smith	6655,00
10	124	Caroline Viescas	6655,00

13. We are receiving signals that prices in the sector have risen exuberantly. We want to verify this with data.
    Therefore, make the overview below where the price for an engagement is compared between 2015 and 2016 only for engagements with the same customer, the same entertainer and the same number of days

	CustomerID	EntertainerID	NumberOfDays	ContractPrice_2015	ContractPrice_2016
1	10003	1006	4	770,00	770,00
2	10013	1002	9	860,00	1130,00
3	10010	1007	4	1550,00	1550,00

Extension: How often have we noted a price increase, a price decrease and a tie?

	Evolution	NumberOfTimes
1	Increase	1
2	Tie	2

14. Give for each year the top 3 of most popular entertainers (= entertainers with most engagements for that year)

	entertainerid	year	numberofengagements	dense_ranking
1	1008	2015	9	1
2	1001	2015	7	2
3	1013	2015	7	2
4	1003	2015	6	3
5	1008	2016	6	1
6	1010	2016	6	1
7	1003	2016	5	2
8	1004	2016	5	2
9	1006	2016	5	2
10	1001	2016	4	3
11	1013	2016	4	3

15. We are wondering if an entertainer was more popular in 2015 compared to 2016 (= if an entertainer had more engagements in 2015 than in 2016).
    Calculate the number of engagements per entertainer per year. The image below shows only a part of the resultset.

	EntertainerID	YearEngagement	(No column name)
1	1001	2015	7
2	1002	2015	5
3	1003	2015	6
4	1004	2015	4
5	1005	2015	4
6	1006	2015	5
7	1007	2015	5
8	1008	2015	9
9	1010	2015	3
10	1011	2015	5
11	1012	2015	3
12	1013	2015	7
13	1001	2016	4
14	1002	2016	2
15	1003	2016	4
16	1004	2016	5
17	1005	2016	3
18	1006	2016	5
19	1007	2016	3
20	1008	2016	6

Extension: Change the previous overview into the following overview

	EntertainerID	YearEngagement	NumberOfEngagements2015	NumberOfEngagements2016
1	1001	2015	7	4
2	1001	2016	4	NULL
3	1002	2015	5	2
4	1002	2016	2	NULL
5	1003	2015	6	4
6	1003	2016	4	NULL
7	1004	2015	4	5
8	1004	2016	5	NULL
9	1005	2015	4	3
10	1005	2016	3	NULL
11	1006	2015	5	5
12	1006	2016	5	NULL
13	1007	2015	5	3
14	1007	2016	3	NULL
15	1008	2015	9	6
16	1008	2016	6	NULL
17	1010	2015	3	6
18	1010	2016	6	NULL
19	1011	2015	5	3
20	1011	2016	3	NULL

Extension: Change the previous overview into the following overview

	EntertainerID	NumberOfEngagements2015	NumberOfEngagements2016	RelativeDifference
1	1001	7	4	-42.86%
2	1002	5	2	-60.00%
3	1003	6	4	-33.33%
4	1004	4	5	25.00%
5	1005	4	3	-25.00%
6	1006	5	5	0.00%
7	1007	5	3	-40.00%
8	1008	9	6	-33.33%
9	1010	3	6	100.00%
10	1011	5	3	-40.00%
11	1012	3	3	0.00%
12	1013	7	4	-42.86%

16. Create the following overview for each entertainer: the total revenue per month en the running total per year. The image below shows only a part of the resultset.

	EntertainerID	YearContract	MonthContract	ContractPricePerMonth	ContractPriceTotalPerYear
1	1001	2015	9	1670,00	1670,00
2	1001	2015	10	2490,00	4160,00
3	1001	2015	11	680,00	4840,00
4	1001	2015	12	1810,00	6650,00
5	1001	2016	1	1990,00	1990,00
6	1001	2016	2	2440,00	4430,00
7	1002	2015	9	1360,00	1360,00
8	1002	2015	10	1810,00	3170,00
9	1002	2015	12	770,00	3940,00
10	1002	2016	1	1130,00	1130,00
11	1002	2016	2	1550,00	2680,00
12	1003	2015	9	6270,00	6270,00
13	1003	2015	10	2210,00	8480,00
14	1003	2015	12	3340,00	11820,00
15	1003	2016	1	2350,00	2350,00
16	1003	2016	2	1130,00	3480,00
17	1003	2016	3	1850,00	5330,00
18	1004	2015	9	1035,00	1035,00
19	1004	2015	12	230,00	1265,00
20	1004	2016	1	1080,00	1080,00
21	1004	2016	2	685,00	1765,00

17. We are wondering if there is somehow a correlation between the EntPricePerDay of an entertainer and the popularity of the entertainer: is the most expensive entertainer the one with the fewest or the most engagements?
    Create the following overview to get an idea. Order the resultset by EntPricePerDay in a descending way.
    Tip: calculate the number of engagements per entertainer first. The column RelativePart is calculated based on the number of engagements of each entertainer.

	EntertainerID	EntPricePerDay	RelativePart
1	1008	280,00	13.51%
2	1003	275,00	29.73%
3	1007	275,00	29.73%
4	1013	250,00	56.76%
5	1006	250,00	56.76%
6	1010	250,00	56.76%
7	1001	175,00	66.67%
8	1005	125,00	72.97%
9	1002	120,00	79.28%
10	1011	90,00	86.49%
11	1012	75,00	91.89%
12	1004	60,00	100.00%

18. We want to know for each entertainer if they got theirselves a raise between 2015 and 2016. Calculate for each entertainer the averge dayprice per engagement (based on the contractprice and the number of days) per year. The image below shows only a part of the resultset.

	EntertainerID	YearEngagement	AverageCalculatedDayPrice
1	1001	2015	163,9058
2	1002	2015	128,1944
3	1003	2015	324,1666
4	1004	2015	58,988
5	1005	2015	180,9523
6	1006	2015	312,75
7	1007	2015	329,75
8	1008	2015	339,2812
9	1010	2015	167,3484
10	1011	2015	76,6514
11	1012	2015	79,5833
12	1013	2015	230,068
13	1001	2016	220,9027
14	1002	2016	140,2777
15	1003	2016	282,0833
16	1004	2016	83,5833
17	1005	2016	97,7777
18	1006	2016	234,373
19	1007	2016	282,3484
20	1008	2016	292,0283
21	1010	2016	290,0694
22	1011	2016	85,7142

Extension: Change the previous overview into the following overview

	EntertainerID	YearEngagement	AverageCalculatedDayPrice2015	AverageCalculatedDayPrice2016
1	1001	2015	163,9058	220,9027
2	1001	2016	220,9027	NULL
3	1002	2015	128,1944	140,2777
4	1002	2016	140,2777	NULL
5	1003	2015	324,1666	282,0833
6	1003	2016	282,0833	NULL
7	1004	2015	58,988	83,5833
8	1004	2016	83,5833	NULL
9	1005	2015	180,9523	97,7777
10	1005	2016	97,7777	NULL
11	1006	2015	312,75	234,373
12	1006	2016	234,373	NULL
13	1007	2015	329,75	282,3484
14	1007	2016	282,3484	NULL
15	1008	2015	339,2812	292,0283
16	1008	2016	292,0283	NULL
17	1010	2015	167,3484	290,0694
18	1010	2016	290,0694	NULL
19	1011	2015	76,6514	85,7142
20	1011	2016	85,7142	NULL
21	1012	2015	79,5833	74,9999
22	1012	2016	74,9999	NULL

Extension: Change the previous overview into the following overview to get the relative raise per entertainer

	EntertainerID	AverageCalculatedDayPrice2015	AverageCalculatedDayPrice2016	RelativeDifference
1	1001	163,9058	220,9027	34.77%
2	1002	128,1944	140,2777	9.43%
3	1003	324,1666	282,0833	-12.98%
4	1004	58,988	83,5833	41.70%
5	1005	180,9523	97,7777	-45.96%
6	1006	312,75	234,373	-25.06%
7	1007	329,75	282,3484	-14.38%
8	1008	339,2812	292,0283	-13.93%
9	1010	167,3484	290,0694	73.33%
10	1011	76,6514	85,7142	11.82%
11	1012	79,5833	74,9999	-5.76%
12	1013	230,068	257,0264	11.72%

19. What is total number of males and females per music style. Only take into account StyleStrength = 1. Create the following overview. The image below shows only a part of the resultset.

	StyleID	StyleName	NumberOfFemales	NumberOfMales
1	1	40's Ballroom Music	0	0
2	2	50's Music	0	0
3	3	60's Music	1	5
4	4	70's Music	0	0
5	5	80's Music	0	0
6	6	Country	1	4
7	7	Classical	0	0
8	8	Classic Rock & Roll	0	0
9	9	Rap	0	0
10	10	Contemporary	0	0
11	11	Country Rock	3	2
12	12	Elvis	0	0
13	13	Folk	1	0
14	14	Chamber Music	2	0
15	15	Jazz	2	2

Extension: Calculate the percentage of females and males per music style

	StyleID	StyleName	RelativeNumberOfFemales	RelativeNumberOfMales
1	3	60's Music	16.67%	83.33%
2	6	Country	20.00%	80.00%
3	11	Country Rock	60.00%	40.00%
4	13	Folk	100.00%	0.00%
5	14	Chamber Music	100.00%	0.00%
6	15	Jazz	50.00%	50.00%
7	19	Rhythm and Blues	40.00%	60.00%
8	20	Show Tunes	100.00%	0.00%
9	22	Top 40 Hits	100.00%	0.00%
10	23	Variety	25.00%	75.00%