

# E-commerce Database Tables

- The color yellow means foreign key

**User**(UserID)

**Supplier**(SupplierID , Rate )    -foreign key from UserID

**Person**(PersonID , FirstName , LastName , SupplierID)

**Business**(BusinessID , CompanyName , SupplierID)

**Customer**(CustomerID , FirstName , LastName)    -foreign key from UserID

**PersonalInfo-Customer**(CustomerID , PersonalID , city , Email , Phone , Address , Country , PostalCode )

**PersonalInfo-Supplier**(SupplierID , PersonalID , city , Email , Phone , Address , Country , PostalCode )

**Product**(ProductID , ProductName , Price , Dimensions , Color , Weight , Description , Discount , CategoryID)

**Category**(CategoryID , Name , Description , picture)

**Supplies**(SupplierID , ProductID , Quantity)

**Cart**(CartID , TotalCost)

**ProductInCart**(ProductID , CustomerID , CartID , NumberOfProduct)

**Order**(OrderID , Cost)

**OrderDetails**(OrderID , ProductID , UnitPrice , Quantity , Discount)

**OrderRateProduct**(ProductID , CustomerID , OrderID , Rate)

**Customer-Gives-Order**(CartID , CustomerID , OrderID , Date)

**Shipper**(ShipperID , Phone , Company)

**ShippedBy**(OrderID , ShipperID , Date)

**Payment**(PaymentID , Address , Date , OrderID , CustomerID)    -foreign keys for **pays**

**DueToReceive**(PaymentID , TransactionID , Signature , SSN)

**Online**(PaymentID , CreditID , CreditExpireDate , Email)

**Employee**(EmployeeID , Degree , CV , FirstName , LastName)

**FullTime**(EmployeeID , Salary-Scale , Holiday-Allowance)

**PartTime**(EmployeeID , Hourly-Rate)

**Admin**(EmployeeID , Admin-Password)

**Security**(EmployeeID , height)

**Accountant**(EmployeeID , Exprience)

**Developer**(EmployeeID , FE or BE)

**Secretary**(EmployeeID , Office-certificate)

**Adds**(AdminID , ProductID)

**PersonalInfo-Employee**(EmployeeID , PersonalID , city , Email , Phone , Address , Country , PostalCode )

**Next-Of-Kin**(EmployeeID , Relation , Phone , Address , FirstName , LastName)

# Normalization

## 1NF :

As all of the tables have one value in each column so they are all in 1NF.

## 2NF :

- **Customer-Gives-Order**(CartID , CustomerID , OrderID , Date) :

OrderID → CustomerID

OrderID → CartID

New tables :

**Customer-Gives-Order**(OrderID , CustomerID , Date)

**Order-Cart**(OrderID , CustomerID)

- **ShippedBy**(OrderID , ShipperID , Date) :

OrderID → ShipperID

New tables :

**ShippedBy**(OrderID , Date)

**Order-Shipper**(OrderID , ShipperID)

- **OrderRateProduct**(ProductID , CustomerID , OrderID , Rate) :

OrderID → CustomerID

New tables :

**OrderRateProduct**(ProductID , OrderID , Rate)

**Order-Customer**(OrderID , CustomerID)

- **Adds**(AdminID , ProductID) :

ProductID → AdminID

New tables :

**Adds**(ProductID , AdminID)

### 3NF :

- **PersonalInfo-Customer**(CustomerID , PersonalID , city , Email , Phone , Address , Country , PostalCode) :

PersonalID → CustomerID → Email

PersonalID → Email

New tables :

**PersonalInfo-Customer**(PersonalID , city , Email , Phone , Address , Country , PostalCode)

**Personal-Customer**(PersonalID , CustomerID)

- **PersonalInfo-Supplier**(SupplierID , PersonalID , city , Email , Phone , Address , Country , PostalCode ) :

PersonalID → SupplierID → Email

PersonalID → Email

New tables :

**PersonalInfo-Customer**(PersonalID , city , Email , Phone , Address , Country , PostalCode)

**Personal-Supplier**(PersonalID , SupplierID)

- **PersonalInfo-Supplier**(EmployeeID , PersonalID , city , Email , Phone , Address , Country , PostalCode ) :

PersonalID → EmployeeID → Email

PersonalID → Email

New tables :

**PersonalInfo-Customer**(PersonalID , city , Email , Phone , Address , Country , PostalCode)

**Personal-Employee**(PersonalID , EmployeeID)

- **Category**(CategoryID , Name , Description , picture) :

CategoryID → Name → Description → Picture

CategoryID → Description

CategoryID → Picture

New tables :

**Category**(CategoryID , Name)

**Category-Description**(CategoryID , Description)

**Category-Picture**(CategoryID , Picture)

- **Payment**(PaymentID , Address , Date , OrderID , CustomerID) :

PaymentID → OrderID → CustomerID

PaymentID → CustomerID

New tables :

**Payment**(PaymentID , Address , Date , CustomerID)

**Payment-Order**(PaymentID , OrderID)

- **DueToReceive**(PaymentID , TransactionID , Signature , SSN) :

PaymentID → TransactionID → Signature(SSN)

PaymentID → Signature(SSN)

New tables :

**DueToReceive**(PaymentID , Signature , SSN)

**Payment-Transaction**(PaymentID , TransactionID)

- **Online**(PaymentID , CreditID , CreditExpireDate , Email) :

PaymentID → CreditID → CreditExpireDate(Email)

PaymentID → CreditExpireDate(Email)

New tables :

**Online**(CreditID , CreditExpireDate , Email)

**Payment-Credit**(CreditID , PaymentID)

## BCNF :

All the tables are in BCNF.

## NEW TABLES (after normalization) :

**User**(UserID)

**Supplier**(SupplierID , Rate )    -foreign key from UserID

**Person**(PersonID , FirstName , LastName , SupplierID)

**Business**(BusinessID , CompanyName , SupplierID)

**Customer**(CustomerID , FirstName , LastName)    -foreign key from UserID

**PersonalInfo-Customer**(PersonalID , city , Email , Phone , Address , Country , PostalCode)

**Personal-Supplier**(PersonalID , SupplierID)

**PersonalInfo-Customer**(PersonalID , city , Email , Phone , Address , Country , PostalCode)

**Personal-Supplier**(PersonalID , SupplierID)

**Product**(ProductID , ProductName , Price , Dimensions , Color , Weight , Description , Discount , CategoryID)

**Category**(CategoryID , Name)

**Category-Description**(CategoryID , Description)

**Category-Picture**(CategoryID , Picture)

**Supplies**(SupplierID , ProductID , Quantity)

**Cart**(CartID , TotalCost)

**ProductInCart**(ProductID , CustomerID , CartID , NumberOfProduct)

**Order**(OrderID , Cost)

**OrderDetails**(OrderID , ProductID , UnitPrice , Quantity , Discount)

**OrderRateProduct**(ProductID , OrderID , Rate)

**Order-Customer**(OrderID , CustomerID)

**Customer-Gives-Order**(OrderID , CustomerID , Date)

**Order-Cart**(OrderID , CustomerID)

**Shipper**(ShipperID , Phone , Company)

**ShippedBy**(OrderID , Date)

**Order-Shipper**(OrderID , ShipperID)

**Payment**(PaymentID , Address , Date , CustomerID)

**Payment-Order**(PaymentID , OrderID)

**DueToReceive**(PaymentID , Signature , SSN)

**Payment-Transaction**(PaymentID , TransactionID)

**Online**(CreditID , CreditExpireDate , Email)

**Payment-Credit**(CreditID , PaymentID)

**Employee**(EmployeeID , Degree , CV , FirstName , LastName)

**FullTime**(EmployeeID , Salary-Scale , Holiday-Allowance)

**PartTime**(EmployeeID , Hourly-Rate)

**Admin**(EmployeeID , Admin-Password)

**Security**(EmployeeID , height)

**Accountant**(EmployeeID , Exprience)

**Developer**(EmployeeID , FE or BE)

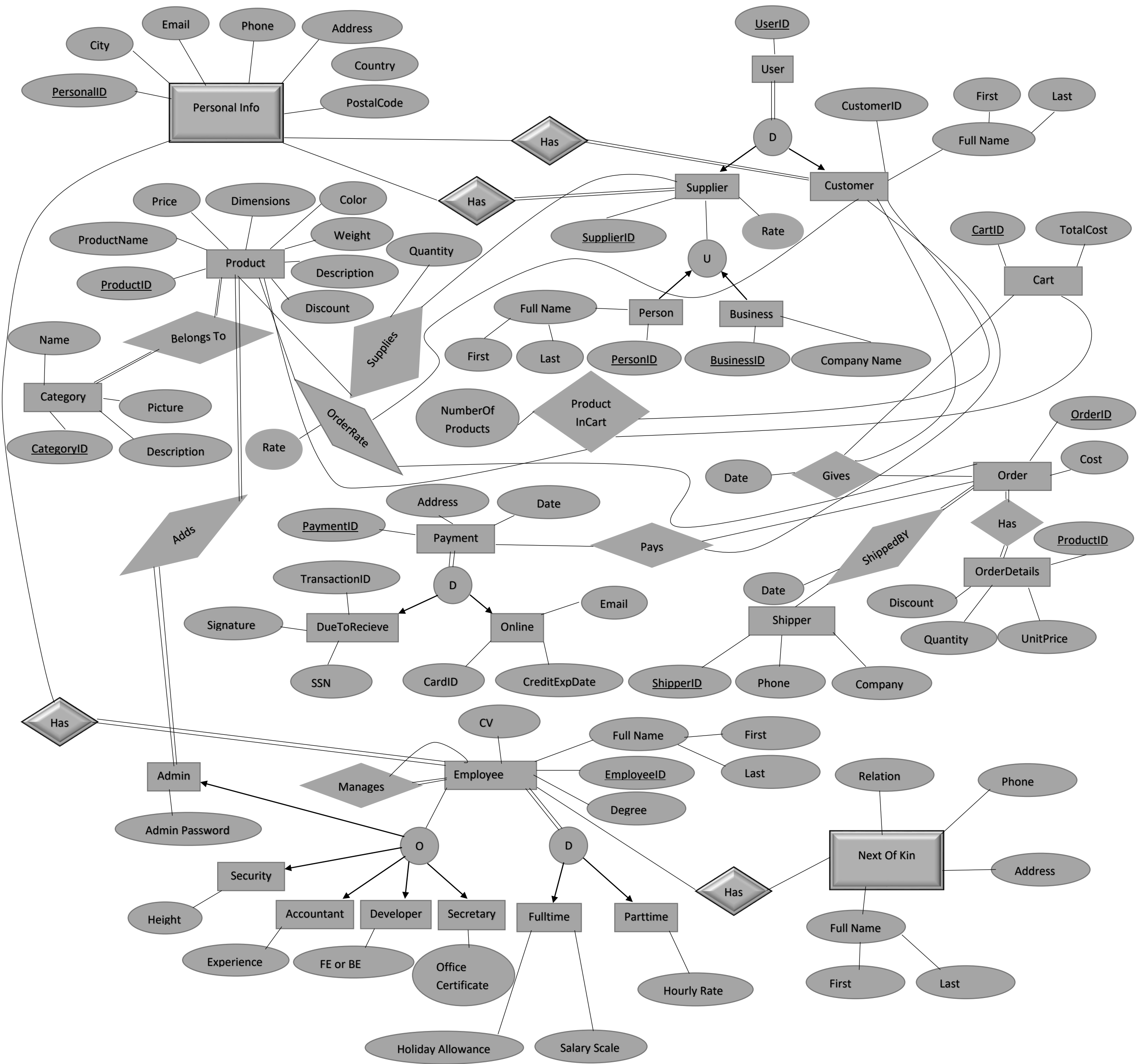
**Secretary**(EmployeeID , Office-certificate)

**Adds**(ProductID , AdminID)

**PersonalInfo-Customer**(PersonalID , city , Email , Phone , Address , Country , PostalCode)

**Personal-Employee**(PersonalID , EmployeeID)

**Next-Of-Kin**(EmployeeID , Relation , Phone , Address , FirstName , LastName)





Category

ItemID	CategoryID	ItemName	Description	Picture
1	345	Books		
2	348	T-shirt		
3	347	Digital	good for technology	
4	348	Watch		
5	351	Shoes		
6	350	Phone	ready to stick on your bag	
7	350	Flies	time to eat	
8	352	Machine		
9	353	Kettle	good design & good for camping	
10	354	Laptop		
11	355	Ty	new better	
12	356	Jeans		
13	357	Glasses	black better	
14	358	Designs	3d design will make you feel better	
15	359	Windows		
16	360	Smoke	smoking kills	
17	361	Writing	white better	
18	362	Sport		
19	363	Cap		
20	364	Covers	Yummy	
21	365	Room Design	everything you need in your room	

Cat

ItemID	CategoryID	ItemName
1	1	1235
2	2	1236
3	3	1237
4	4	1238
5	5	1239
6	6	1240
7	7	1241
8	8	1242
9	9	1243
10	10	1244
11	11	1245
12	12	1246
13	13	1247
14	14	1248
15	15	1249
16	16	1250
17	17	1251
18	18	1252
19	19	1253
20	20	1254
21	21	1255
22	22	1256

Product

ProductID	ProductName	Price	Dimensions	Color	Weight	Description	Discount
1	1235	books with spines	16000	red	25 gr		0
2	1236	long shirt	100000	bl	black		0.1
3	1237	watch 3	2000000	20x30 mm	silver	100 gr	0
4	1238	imperial metal watch	350000000	60x30 mm	gold	250 gr	0
5	1239	sailoroon sneakers	275000000		black and white	200 gr	0.2
6	1240	batman phone	5000	2x2 cm	black		0
7	1241	stake pizza	60000	60x60 cm			0
8	1242	best rigger	45000				0
9	1243	diamonding guitar B12	2000000	10x4 cm	black chrome	145 gr	0
10	1244	marlboro net	90000	15x10x2 cm	red and white		0
11	1245	digital watch	8000		black chrome	20g	0.1
12	1246	small chair	200000	60x60x70	brown	1 kg	0
13	1247	headband	90000		white	25 gr	0
14	1248	surfboard	60000			1 kg	0
15	1249	pendis	52000000		white	1 ton	0
16	1250	marlboro net	90000	15x10x2 cm	red and white		0
17	1251	batman phone	5000	2x2 cm	black		0
18	1252	diamonding guitar B12	22000000	10x4 cm	black chrome	145 gr	0
19	1253	surfboard	40000			1 kg	0
20	1254	marlboro net	70000	15x10x2 cm	red and white		0
21	1255	small chair	190000	60x60x70	brown	1 kg	0
22	1256	long shirt	120000	M	black		0.1

Shippers

ShipperID	ShipperName	Address
1	12500001	12500001
2	12500002	12500002
3	12500003	12500003
4	12500004	12500004
5	12500005	12500005
6	12500006	12500006
7	12500007	12500007
8	12500008	12500008
9	12500009	12500009
10	12500010	12500010
11	12500011	12500011
12	12500012	12500012
13	12500013	12500013
14	12500014	12500014
15	12500015	12500015
16	12500016	12500016
17	12500017	12500017
18	12500018	12500018
19	12500019	12500019
20	12500020	12500020
21	12500021	12500021
22	12500022	12500022
23	12500023	12500023
24	12500024	12500024
25	12500025	12500025
26	12500026	12500026
27	12500027	12500027
28	12500028	12500028
29	12500029	12500029
30	12500030	12500030
31	12500031	12500031
32	12500032	12500032
33	12500033	12500033
34	12500034	12500034
35	12500035	12500035
36	12500036	12500036
37	12500037	12500037
38	12500038	12500038
39	12500039	12500039
40	12500040	12500040
41	12500041	12500041
42	12500042	12500042
43	12500043	12500043
44	12500044	12500044
45	12500045	12500045
46	12500046	12500046
47	12500047	12500047
48	12500048	12500048
49	12500049	12500049
50	12500050	12500050

Order

OrderID	CustomerID	ItemID
1	12500001	12500001
2	12500002	12500002
3	12500003	12500003
4	12500004	12500004
5	12500005	12500005
6	12500006	12500006
7	12500007	12500007
8	12500008	12500008
9	12500009	12500009
10	12500010	12500010
11	12500011	12500011
12	12500012	12500012
13	12500013	12500013
14	12500014	12500014
15	12500015	12500015
16	12500016	12500016
17	12500017	12500017
18	12500018	12500018
19	12500019	12500019
20	12500020	12500020

OrderDetails

OrderID	ProductID	UnitPrice	Quantity	Discount
1	1235	3500000	1	0
2	1236	100000	2	0
3	1237	2000000	1	0
4	1238	350000000	1	0
5	1239	275000000	1	0
6	1240	5000	1	0
7	1241	60000	1	0
8	1242	45000	1	0
9	1243	2000000	1	0
10	1244	90000	1	0
11	1245	8000	1	0
12	1246	200000	1	0
13	1247	90000	1	0
14	1248	60000	1	0
15	1249	52000000	1	0
16	1250	90000	1	0
17	1251	5000	1	0
18	1252	22000000	1	0
19	1253	40000	1	0
20	1254	70000	1	0
21	1255	190000	1	0
22	1256	120000	1	0

CustomerOrders

OrderID	CustomerID	OrderID	Date
1	12500001	12500001	98/02/18
2	12500002	12500002	98/03/19
3	12500003	12500003	98/04/20
4	12500004	12500004	98/05/21
5	12500005	12500005	98/06/22
6	12500006	12500006	98/07/23
7	12500007	12500007	98/08/24
8	12500008	12500008	98/09/25
9	12500009	12500009	98/10/26
10	12500010	12500010	98/11/27
11	12500011	12500011	98/12/28
12	12500012	12500012	99/01/29
13	12500013	12500013	99/02/30
14	12500014	12500014	99/03/31
15	12500015	12500015	99/04/01
16	12500016	12500016	99/05/02
17	12500017	12500017	99/06/03
18	12500018	12500018	99/07/04
19	12500019	12500019	99/08/05
20	12500020	12500020	99/09/06

Shipments

ShipmentID	OrderID	ShipperID	Date
1	12500001	12500001	98/02/18
2	12500002	12500002	98/03/19
3	12500003	12500003	98/04/20
4	12500004	12500004	98/05/21
5	12500005	12500005	98/06/22
6	12500006	12500006	98/07/23
7	12500007	12500007	98/08/24
8	12500008	12500008	98/09/25
9	12500009	12500009	98/10/26
10	12500010	12500010	98/11/27
11	12500011	12500011	98/12/28
12	12500012	12500012	99/01/29
13	12500013	12500013	99/02/30
14	12500014	12500014	99/03/31
15	12500015	12500015	99/04/01
16	12500016	12500016	99/05/02
17	12500017	12500017	99/06/03
18	12500018	12500018	99/07/04
19	12500019	12500019	99/08/05
20	12500020	12500020	99/09/06

DueToFollows

ProductID	PaymentID	TransactionID	Signature	ISBN
1	12500001	19480472842		298403683
2	12500002	21034804248		360342483
3	12500003	23842404248		280342482
4	12500004	25403484248		234072424
5	12500005	26403484248		340040404
6	12500006	28424034248		040247490
7	12500007	3424627229		454248276
8	12500008	29406184424		278844444
9	12500009	23473744243		246992045

Online

OrderID	PaymentID	CreditID	Credit/DebitCard	Email
1	12500001	1827-2374-4769-2347	0001	web@yahoos.com
2	12500002	3472-2354-2342-4973	0012	
3	12500003	4353-3677-4333-4385	0007	edg@yahoos.com
4	12500004	2793-4668-4379-4739	9902	sergio@yahoos.com
5	12500005	1827-2374-4769-2347	0003	sergio@yahoos.com
6	12500006	3472-2354-2342-4973	0012	
7	12500007	4353-3677-4333-4385	9908	stam@gmail.com
8	12500008	2793-4668-4379-4739	0001	
9	12500009	2793-4668-4379-4739	0004	br@yahoos.com
10	12500010	3249-2347-7692-9174	0101	br@yahoos.com

DataBase-Project-sheet tables with data

10	123450000	Downtown Toronto	9901118	21000209	997
11	1234500010	Norwest Joliet St.	9901119	21000210	998
12	1234500011	Downtown Kabul	9901119	21000211	999
13	1234500012	Downtown Toronto	9902001	21000212	997
14	1234500013	Pasargad	9902002	21000213	998
15	1234500014	Shohada Sq.	990210	21000214	996
16	1234500015	Marzo Biv.	990212	21000215	991
17	1234500016	W Henevad Biv.	990212	21000216	995
18	1234500017	Inam Sq.	990213	21000217	974
19	1234500018	Downtown Toronto	990213	21000218	997
20	1234500019	Pasargad	990215	21000219	998

Employee		Degree		CV		Firstname		Lastname	
row/column	EmployeeID								
1	401	BS				Abbas	Mohammads		
2	402	MS				Amirali	Agahae		
3	403	BA				Zahra	Hosseini		
4	404	MA				Negar	Vafaei		
5	405	BS				Neghin	Zarembi		
6	406	BA				Maryam	Khoshdel		
7	407	MA				Mania	Nazari		
8	408	MA				Armin	Karimi		
9	409	BS				Hossein	Nazari		
10	410	BA				Ali	Alkhari		
11	411	MA				Mohammad	Hassani		
12	412	BS				Nasir	Amiri		
13	413	MS				Hassan	Hossein Mughlani		
14	414	BA				Amirali	Basiri		
15	415	MA				Pedram	Agahae		
16	416	BS				Shayan	Bayghambari Oskoue		
17	417	BA				Hossein	Nasiri		
18	418	MA				Moham	Omari		
19	419	BS				Asghar	Marhoobi		
20	420	BA				Akbar	Ataiebi		

Admin		Admin-Password	
row/column	EmployeeID		
1	401	82647205	
2	402	29492247	
3	403	30552943	
4	404	24750338	
5	405	22922246	
6	406	40554903	
7	407	48254928	
8	408	43731673	
9	409	34963420	
10	410	204728473	

Security		height	
row/column	EmployeeID		
1	401	170	
2	402	172	
3	413	175	
4	414	202	
5	415	185	
6	416	182	
7	417	197	
8	418	182	
9	419	167	
10	420	187	

Accountant		Experience	
row/column	EmployeeID		
1	411	1	
2	412	3	
3	413	10	
4	414	2	
5	415	1	
6	408	4	
7	407	3	
8	408	11	
9	409	5	
10	410	10	

PartTime		Hourly Rate	
row/column	EmployeeID		
1	411	60000	
2	412	50000	
3	413	80000	
4	414	70000	
5	415	750000	
6	416	4000	
7	417	100000	
8	418	90000	
9	419	50000	
10	420	70000	

Secretary		Office Certificate	
row/column	EmployeeID		
1	409	Y	
2	410	N	
3	411	Y	
4	404	Y	
5	405	N	
6	406	Y	
7	415	Y	
8	416	N	
9	417	Y	
10	418	Y	

socialMediaEmployee		personalID		city		phone		address		country		postalcode	
row/column	EmployeeID												
1	401	301	Tehran	mas@yahoo.com	021-22334455	Maragheh	Iran	239402693					
2	402	302	Tehran	asf@gmail.com	021-44532633	Ponok	Iran	337976498					
3	403	303	Qom	af@yahoo.com	022-33968777	Enghelab-44	Iran	238493423					
4	404	304	Sari	noras@yahoo.com	011-33226144	Shahrak	Iran	348970124					
5	405	305	Mashhad	hosni@yahoo.com	052-84330465	Hotel Davarsh	Iran	2346900773					
6	406	306	Shiraz	amir@gmail.com	020-48194032	Downtown Shiraz	Iran	2346899593					
7	407	307	Tehran	karim@gmail.com	034-49529175	33 pos	Iran	9504929429					
8	408	308	Mashad	sanad@yahoo.com	054-44530321	Downtown Markazi	Iran	2160279384					
9	409	309	Kermanshah	af23@yahoo.com	021-37298462	Basest Abadi	Iran	2349024672					
10	410	310	Khonsabaz	marasr@gmail.com	020-33294962	Inam Sq.	Iran	1761794968					
11	411	311	Sari	rezaf@yahoo.com	011-33294973	Shohada Sq.	Iran	1247247927					
12	412	312	Ainabadi	mohean@gmail.com	034-42947892	Marzbanan Biv.	Iran	2946284385					
13	413	313	Tehran	mohean23@gmail.com	021-48394729	W Henevad Biv.	Iran	483978484					
14	414	314	Gorgan	br@gmail.com	110-23843049	Gorgan	Iran	4242543234					
15	415	315	Montreal	af@yahoo.com	222-33686762	Downtown Montreal	Canada	5454595986					
16	416	316	Texas	nasir@gmail.com	333-23503033	Downtown Texas	USA	1800276763					
17	417	317	New York	mohean23@gmail.com	444-23686482	JFK	USA	7587452547					
18	418	318	Kash	mo4Shuan@gmail.com	025-28402658	Pardisan 9 - petak 3	Iran	989098135					
19	419	319	Orskan	mo4Shuan@gmail.com	025-24652462	Pardis 4	Iran	0202156403					
20	420	320	Sistan Baluchestan	mo4Shuan@gmail.com	021-47302949	Pasargad	Iran	9874982798					

NextOfKin		Relation		Phone		Address		Firstname		Lastname	
row/column	EmployeeID										
1	401	Brother		021-22334455		Gorgan	Amir	Basirzade			
2	402	Mother		021-44233433		Downtown Montreal	Fatima	Amiri			
3	403	Father		022-33968777		Downtown Texas	Mohammads	Asadi			
4	404	Sister		011-33226744		JFK	Taraneh	Rezai			
5	405	Grandmother		032-84334445		Pardisan 9 - petak 3	Khosrovi	Zarembi			
6	406	Grandfather		020-48194032		Pardis 4	Asghar	Rasati			
7	407	Brother		034-49529675		Pasargad	Hassan	Sharyadi			
8	408	Mother		054-44530321		Makrasian	Fatemeh	Fazeli			
9	409	Father		021-37298462		Ponok	Hossein	Namdar			
10	410	Brother		030-36294982		Enghelab-44	Pedram	Agahae			
11	411	Mother		011-36294973		Shohran	Maryam	Nemzadi			
12	412	Father		034-42947892		Hotel Davarsh	Ali	Alpour			
13	413	Brother		021-48394729		Downtown Shiraz	Rasou	Rasaezade			
14	414	Mother		110-23843049		33 pos	Fatima	Abdoli			
15	415	Father		222-33686762		Downtown Markazi	Akbar	Akbari			
16	416	Sister		033-23553393		Downtown Texas	Sahar	Shirvani			
17	417	Grandmother		444-23686482		JFK	Rouhane	Abdoli			
18	418	Grandfather		025-28402658		Pardisan 9 - petak 3	Boima	Barakhti			
19	419	Sister		023-24652462		Pardis 4	Boislan	Agahae			
20	420	Grandmother		021-47302949		Pasargad	Taraneh	Mohammadi			

Admin		AdminID		Password	
row/column					
1	401	1235			
2	402	1236			
3	403	1237			
4	404	1238			
5	405	1239			
6	406	1240			
7	407	1241			
8	408	1242			
9	409	1243			
10	410	1244			
11	404	1245			
12	408	1246			
13	404	1247			
14	405	1248			
15	406	1249			
16	408	1250			
17	409	1251			
18	410	1252			
19	402	1253			
20	403	1254			
21	402	1255			
22	403	1256			