Yiwen Liang, Khanjan Patel, Sisi Fu, Junwei Wang
MIS 632 – Team Project
Dr. Orakwue B. Arinze.

Import the tables into HANA and join them via foreign key relationships. Use SQL in HANA to answer the following queries:

1. List the top 10 states by number of complaints (descending order)

   Code:

```sql
SELECT TOP 10 Count("Complaints"."Complaint_ID") as "NumberofComplaints", "Complaints"."State"
FROM  "GBI_909"."GBI_909::Project.Complaints" as "Complaints"
GROUP BY "Complaints"."State"
ORDER BY "NumberofComplaints" desc;
```

   Output:

	12 NumberofComplaints	AB State
1	76149	CA
2	49816	FL
3	38447	TX
4	35595	NY
5	22762	GA
6	20897	NJ
7	18665	PA
8	18306	IL
9	16856	VA
10	16527	MD

2. List the top 10 states by number of complaints per capita (descending order)

   Code:

```sql
SELECT TOP 10 Count("Complaints"."Complaint_ID")/"State"."population_in_2015" as "NumberofComplaintsPerCapita", "Complaints"."State"
FROM  "GBI_909"."GBI_909::Project.Complaints" as "Complaints" left join "GBI_909"."GBI_909::Project.State" as "State"
ON "Complaints"."State"="State"."Abbreviation"
GROUP BY "State"."population_in_2015","Complaints"."State"
ORDER BY "NumberofComplaintsPerCapita" desc;
```

   Output:

	12 NumberofComplaintsPerCapita	AB State
1	0.004467	DC
2	0.002919	DE
3	0.002751	MD
4	0.002457	FL
5	0.002332	NJ
6	0.002228	GA
7	0.002173	NV
8	0.00201	VA
9	0.002005	NH
10	0.001945	CA

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3. List for each state, the top zip code by total income

Code:

```sql
SELECT "STATE", "ZIPCODE", "Total_Income"
FROM (
    SELECT row_number() OVER (PARTITION BY "STATE" ORDER BY "Total_Income" DESC) AS "Rownumber",
        "STATE",
        "ZIPCODE",
        "Total_Income"
    FROM "GBI_909::Project.Demographic"
    WHERE "ZIPCODE" > '0'
        AND "ZIPCODE" < '99999'
)
WHERE "Rownumber" = '1'
ORDER BY "STATE" ASC;
```

Output:

STATE	ZIPCODE	Total_Income
AK	99507	1587097
AL	35242	3359972
AR	72712	4948326
AZ	85255	4531297
CA	94301	10344979
CO	80134	3274905
CT	6830	7329910
DC	20016	3971103
DE	19711	1804317
FL	33480	6938322
GA	30327	5045172
HI	96816	2106833
IA	52722	1805312
ID	83646	1643020
IL	60611	8038373
IN	46032	3452667
KS	66062	2751846
KY	41017	2430184
LA	70810	2133069
MA	2116	5618116
MD	20854	6528114
ME	4401	1091331
MI	48103	2802050
MN	55391	2774257
MO	63017	2890340
MS	39110	2217708
MT	59102	1503478

NC	28277	3969519
ND	58104	1657495
NE	68516	1910616
NH	3110	1558165
NJ	7030	4710953
NM	87111	2280095
NV	89052	3455899
NY	10021	13736993
OH	45040	2744276
OK	73013	2794681
OR	97229	4009889
PA	19087	3539268
RI	2906	1539612
SC	29464	2740178
SD	57108	1621752
TN	37027	4757578
TX	77024	8816629
UT	84020	2048234
VA	22101	5140869
VT	5403	842143
WA	98004	4522144
WI	53217	2955266
WV	26508	1382106
WY	82009	1359434

4. List for each state, the income per capita plus the number of complaints for the state

Code:

```
SELECT "IncomePerCapita",Count("Complaints"."Complaint_ID"),"State"
From "GBI_909"."GBI_909::Project.Complaints" as "Complaints"
RIGHT JOIN (
    SELECT sum("Demographic"."Total_Income")/"State"."population_in_2015" as "IncomePerCapita","Demographic"."STATE"
    From "GBI_909"."GBI_909::Project.State" as "State"
    Right Join "GBI_909"."GBI_909::Project.Demographic" as "Demographic" ON "Demographic"."STATE"="State"."Abbreviation"
    WHERE "Demographic"."ZIPCODE">0 AND "Demographic"."ZIPCODE"<99999
    GROUP BY "Demographic"."STATE","State"."population_in_2015"
    ORDER BY "Demographic"."STATE" desc) as "StateIncomePerCapita"
ON "Complaints"."State"="StateIncomePerCapita"."STATE"
GROUP BY "Complaints"."State","StateIncomePerCapita"."IncomePerCapita"
ORDER BY "Complaints"."State";
```

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Output:

IncomePerCapita	COUNT(Complaint_ID)	State
27.991672	595	AK
23.019013	5264	AL
22.250275	2228	AR
25.197112	11548	AZ
35.634108	76149	CA
34.77598	8838	CO
47.232048	6072	CT
48.909761	3003	DC
30.646187	2762	DE
30.905564	49816	FL
26.473675	22762	GA
28.370362	1820	HI
28.72166	2106	IA
24.159452	1796	ID
35.039857	18306	IL
26.538144	5689	IN
29.17377	2499	KS
23.370308	3689	KY
24.188604	5011	LA
44.441052	10414	MA
37.458877	16527	MD
26.775132	1820	ME
28.263306	13679	MI
35.793553	5973	MN
27.194256	6753	MO
19.724231	2390	MS
26.004374	841	MT
26.259042	14540	NC
33.307765	442	ND
29.69885	1619	NE
37.171021	2669	NH
41.689544	20897	NJ
21.25237	2530	NM
28.492326	6283	NV
40.092301	35595	NY
28.225536	16250	OH
24.340925	3396	OK
29.622689	6155	OR

31.731826	18665	PA
31.982308	1792	RI
24.418544	6434	SC
29.795642	705	SD
25.84044	7847	TN
29.60219	38447	TX
26.382199	2746	UT
34.882215	16856	VA
30.114971	895	VT
36.142686	10759	WA
30.678477	5729	WI
20.848652	1356	WV
31.977529	524	WY

5. List the top 10 companies appearing in the complaints table by count

Code:

```sql
SELECT TOP 10 "Complaints"."Company", Count("Complaints"."Complaint_ID") as "NumberofComplaints"
FROM  "GBI_909"."GBI_909::Project.Complaints" as "Complaints"
GROUP BY "Complaints"."Company"
ORDER BY "NumberofComplaints" desc;
```

Output:

	Company	NumberofComplaints
1	Bank of America	54113
2	Wells Fargo	40121
3	JPMorgan Chase	32187
4	Equifax	28743
5	Experian	28105
6	Citibank	24165
7	TransUnion	23200
8	Ocwen	20194
9	Capital One	14848
10	Nationstar Mortgage	12488