**Access level 3 – joining tables**

**Exercise: School salary data**

**50 points (5 points each question)**

These are salary records for all “licensed” educators in Minnesota public school districts for the 2010-11 school year. Teachers and administrators (except in charter schools), plus professional support staff such as nurses and psychologists are licensed by the state of Minnesota. This data is from the Minnesota Department of Education. Charter school administrators are the most notable people who might be absent from this data. They are not required to be licensed, although many of them are (and do show up in this data).

**How the data is structured:**

The table called “Sals” contains one record for each person for each district they worked in. Someone who works across multiple districts will have multiple records. The field called “foldernumber” is the unique ID record for each person, so this number will be the same for all of the records where the person works in multiple districts.

The table called “Sals\_Assign” contains one record for each person’s various assignments. Some people only have one assignment; others might have a dozen. An assignment would be something like “principal” or “science teacher” or “biology teacher,” etc. The field called “foldernumber” is the unique ID number for each person and is used for joining to the Sals table.

There are a handful of people in the data who have a salary record but the state did not provide assignment records (the state told me they didn’t receive them from the districts). For these people, I created a record in the Sals\_Assign table that says “no assignment provided”

In the Sals\_Assign table, I also created a field called “assigntype” that has categorized each assignment into “admin”, “guidance”, “other”, “spec ed” and “teacher.”

Questions – provide the answer, plus the SQL used to obtain it:

1. What’s the total amount of salaries paid out?

$71 million

SELECT Sum(CONTRACTSALARY)

FROM sals;

1. Which school district paid the most in salaries?

St Paul, $715 million

SELECT sals.EMPDISTNAME, Sum(sals.CONTRACTSALARY) AS SumOfCONTRACTSALARY

FROM sals

GROUP BY sals.EMPDISTNAME

ORDER BY Sum(sals.CONTRACTSALARY) DESC;

1. Who’s the highest-paid person (encompassing all jobs)? Where does he/she work and what does he/she do? (hint: beware of people with the same name; this may require more than one query)

Dennis Peterson, $203,940

Minnetonka superintendent

Query 1:

SELECT sals.FOLDERNUMBER, sals.LASTNAME, sals.FIRSTNAME, Sum(sals.CONTRACTSALARY) AS SumOfCONTRACTSALARY

FROM sals

GROUP BY sals.FOLDERNUMBER, sals.LASTNAME, sals.FIRSTNAME

ORDER BY Sum(sals.CONTRACTSALARY) DESC;

Query 2:

SELECT salsAssign.\*

FROM salsAssign

WHERE (((salsAssign.foldernumber)="226359"));

1. What’s the average salary for full-time teachers statewide?

Key: The assignFTE field in the salsAssign table pertains to each assignment. So by using this field as a criteria (where assignfte=1) then you get only those people who work full-time as a teacher. It would leave out people who are teacher and principal or something like that.

Answer: $54,652

SELECT Avg(sals.CONTRACTSALARY) AS AvgOfCONTRACTSALARY

FROM sals INNER JOIN salsAssign ON sals.FOLDERNUMBER = salsAssign.foldernumber

WHERE (((salsAssign.assignfte)=1) AND ((salsAssign.assigntype)="teacher"));

1. What’s the average salary for full-time teachers in the St. Paul Public School District?

$39,918

SELECT Avg(sals.CONTRACTSALARY) AS AvgOfCONTRACTSALARY

FROM sals INNER JOIN salsAssign ON sals.FOLDERNUMBER = salsAssign.foldernumber

WHERE (((salsAssign.assignfte)=1) AND ((salsAssign.assigntype)="teacher") AND ((sals.EMPDISTNAME) Like "st paul\*"));

1. What’s the average salary for full-time teachers who have a master’s degree?

$61,544

SELECT Avg(sals.CONTRACTSALARY) AS AvgOfCONTRACTSALARY

FROM sals INNER JOIN salsAssign ON sals.FOLDERNUMBER = salsAssign.foldernumber

WHERE (((salsAssign.assignfte)=1) AND ((salsAssign.assigntype)="teacher") AND ((sals.EDLEVEL) Like "ma\*"));

1. What’s the average salary for full-time teachers who have more than 20 years experience (including exactly 20 yrs)?

$64,590

SELECT Avg(sals.CONTRACTSALARY) AS AvgOfCONTRACTSALARY

FROM sals INNER JOIN salsAssign ON sals.FOLDERNUMBER = salsAssign.foldernumber

WHERE (((salsAssign.assignfte)=1) AND ((salsAssign.assigntype)="teacher") AND ((sals.TOTALEXPERIENCE)>=20));

1. What’s the average salary for full-time teachers who have less than 10 years experience?

$41,422

SELECT Avg(sals.CONTRACTSALARY) AS AvgOfCONTRACTSALARY

FROM sals INNER JOIN salsAssign ON sals.FOLDERNUMBER = salsAssign.foldernumber

WHERE (((salsAssign.assignfte)=1) AND ((salsAssign.assigntype)="teacher") AND ((sals.TOTALEXPERIENCE)<10));

1. Which teacher had the highest salary and how much did he/she receive? What does he/she teach and where?

Wenette Barden, $111,853

Music, districtwide for Osseo

1. What’s the average salary for each assignment type (administrators, teacher, etc)?

| **Query1** | |
| --- | --- |
| **assigntype** | **AvgOfCONTRACTSALARY** |
|  | $42,356.76 |
| admin | $93,846.09 |
| guidance | $55,346.25 |
| other | $56,138.52 |
| spec ed | $53,847.60 |
| teacher | $51,927.23 |

SELECT salsAssign.assigntype, Avg(sals.CONTRACTSALARY) AS AvgOfCONTRACTSALARY

FROM sals INNER JOIN salsAssign ON sals.FOLDERNUMBER = salsAssign.foldernumber

GROUP BY salsAssign.assigntype;