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TASK

This exercise is a modified version of the CPS one year dropout rate calculation. The task is to create student, school, and district level datasets for the one year dropout rate using the metric definition and source data provided and be prepared to answer questions. The specific output required and questions to be asked are as follows.

Deliverable: Create SAS datasets - submit your SAS programs and your SAS datasets:
1. Using the datasets provided, create a **student** level SAS dataset that includes:
    ○ School Unique ID
    ○ Student Unique ID
    ○ Grade
    ○ Gender
    ○ Leave Code
    ○ Verified Transfer status
    ○ Indicator of whether the student is in the dropout rate numerator
    ○ Indicator of whether the student is in the dropout rate denominator
2. Use the student level SAS dataset you created to create a **district** level SAS dataset with the following aggregate data:
    ○ District Level Overall Dropout Rate
    ○ District Level Dropout Rate by Gender
3. Use the student level SAS dataset you created to create a **school** level SAS dataset with the following aggregate data:
    ○ Dropout Rate by School Unique ID
    ○ Dropout Rate by School Unique ID and Gender

Deliverable: submit answers to the following in writing:

4. Assume the data may not be completely clean. Perform some data quality checks. Please write a list of data checks you did and what you found.

5. If you find data anomalies in your data quality checks above that might affect how you create the datasets / code the data, use your judgment to come up with a course of action then explain how you handled it. Note that we don't expect that you will necessarily have a "right" answer for how to deal with it. Rather, we often find ourselves presented with data that does not conform to our expectations. We have to be able to explain what we found and how we handled it clearly so that others can be aware of the issue and perhaps recommend a different course.

6. After our department calculates the dropout rate, we send student level data for each school. Schools are then given the opportunity to ask questions and we must answer them. Note that schools do not always fully read and understand the metric definition. After creating the datasets above, please use the data and the metric definition to answer the following question from a school. Note that you cannot see the student system, but assume that they are stating the student's status correctly.

> QUESTION FROM SCHOOL: "John Smith (Student Unique ID 256595825) left our school to transfer to another Chicago Public School. We can see on the student system that, John enrolled at Potter High School (School Unique ID 2198052) on 10/14/2016 and remains enrolled: . Why was he counted as a dropout in the 2015-2016 dropout rate?"

7. Look at the metric definition section, including the chart of which leave codes are included in the numerator and denominator of the dropout rate. If you were on a committee to evaluate whether there should be changes in the calculation, are there any changes you might like to consider or items about which you'd like to learn more information before you could?

METRIC DEFINITION

The CPS One Year Dropout Rate is the percent of students who were enrolled in grades 9 through 12 during the year who dropped out.

Rules for calculating the one year dropout rate (for school year 2015-2016).
1. Students in grade 9, 10, 11, and 12 who were enrolled on any day between July 1, 2015 and June 30, 2016 will form the initial list of students in the denominator.
2. Use the chart below to determine if a student is in the numerator or denominator of this metric, based on the leave code assigned to a student.

As of 6/30/2016 data extraction student ..	Include in denominator	Include in numerator	Notes:
Is still enrolled as of the last day of the year (i.e. student leave date is 12/31/9999 or any date after 6/30/2016.	Yes	No	**If a student meets the criteria for "is still enrolled" but has one of the leave codes listed below, that leave code should be ignored in the processing below as it is a "future" or "projected" leave. Such students should be coded "still enrolled".**
Has a leave code of **31** (Description: Student is transferring to another Chicago Public, Contract, Charter, or Options school (that is, ANY school that has a school unique identifier).	Yes	Yes	If a student was marked as transferring to another CPS school but was not enrolled in another CPS school by 6/30/2016, student is counted a dropout. Note, if student was enrolled in that new school by 6/30/2016, student would no longer have leave code 31, because the enrollment in the new school would appear on the data.
Has a leave code of **32** (Description: Student is transferring to a non-public school located in the city of Chicago. Note: This code should not be used for transfers to GED programs. Schools exiting students with this leave code are required to verify that students actually arrived at the new school and must enter information in the student data system indicating that they *have* verified the transfer).	Varies, see "Notes" column.	Yes if in denominator. Otherwise, no.	For leave codes 32, 33, 34:use the following logic In Denominator=**No** if: 1. Verified transfer=YES, or 2. Verified transfer=UNKNOWN, or 3. Student leave date is on or after February 1, 2016 (regardless of the value of verified transfer) Otherwise, In Denominator = **Yes**
Has a leave code of **33** (Description: Student is transferring to a public or private school outside	Same rules as	Same rules as	Use same rules as for leave code 32

the city of Chicago. Note: This code should not be used for transfers to GED programs. Schools exiting students with this leave code are required to verify that students actually arrived at the new school and must enter information in the student data system indicating that they *have* verified the transfer).	leave code 32	leave code 32	
Has a leave code of **34** (Description: Student is transferring at the request of the parent or guardian to a residential institution or a facility providing long-term care, NOT within the district. Schools exiting students with this leave code are required to verify that students actually arrived at the residential facility and must enter information in the student data system indicating that they *have* verified the transfer).	Same rules as leave code 32	Same rules as leave code 32	Use same rules as for leave code 32
Has a leave code of **35** (Description:Student is legally committed to a state or federal correctional institution. Schools exiting students with this leave code are required to verify that the student actually was committed to the institution but are not required to enter anything in the student information system indicating this has been verified.)	No	No	
Has a leave code of **40** (Description: Student is being home schooled. The parent/guardian must complete the CPS Statement of Assurance and provide a letter which describes the manner in which the parent will be instructing the child at home.)	No	No	
Has a leave code of **41** (Description: The school receives notification of the student's death.)	No	No	
Has a leave code of **52** (Description:The parent or guardian is voluntarily withdrawing the student from an optional Early Childhood program. Note: This code is restricted to Early Childhood programs only and will be counted as a dropout for students in grades 9-12).	Yes	Yes	
Has a leave code of **53** (Description: Retired Leave Code which should not be used, but if it is used it will be a dropout.)	Yes	Yes	
Has a leave code of **55** (Description: Student graduated from Chicago public high school)	Yes	No	
Has a leave code of **67** (Description: Student has reached 21 years old and has not met graduation requirements, applicable to both general education students and students receiving special	Yes	Yes	

education and related services. For a student receiving special education and related services, he/she must be withdrawn no later than the day before the 22nd birthday.)			
Has a leave code of **86** (Description: The school is unable to locate the student, and has followed the Lost Child process.)	Yes	Yes	Student is 17 years or older and the Consent to Withdraw form has been completed by the parent/guardian/ emancipated student.
Has a leave code of **87** (Description: Student is 17 years or older and the Consent to Withdraw form has been completed by the parent/guardian/ emancipated student.)	Yes	Yes	
Has a leave code of **88** (Description: Retired Leave Code which should not be used, but if it is used it will be a dropout.)	Yes	Yes	
Has a leave code of **99** (Description: Student did not arrive on the first day of school.)	Yes	Yes	This code is used for students who were expected to attend the school this year but never arrived this school year. It can include students who never attended the school (new enrollees) as well as students who attended the school last year and were expected to re-enroll.

SOURCE DATA

Dataset: perf.performancetask_finstat
Description: Contains final status (as of 6/30/2106) for each student in school year 2015-2016, including school, grade level, and leave code/date

Name	Type	Length	Format	Label
STUDENT_UNIQUE_ID	Numeric	8		Student Unique Identifier
SCHOOL_UNIQUE_ID	Numeric	8		School Unique Identifier
grade_level	Character	2		Student end of year grade level
entry_date	Date	8	YYMMDD10.	Student entry date for most recent enrollment this school year
entry_code	Character	2		Student entry code for most recent enrollment this school year
leave_date	Date	8	YYMMDD10.	Student leave date for most recent enrollment this school year
leave_code	Character	5		Student leave code for most recent enrollment this school year
verified_transfer	Character	7		Was student transfer verified

Dataset: perf.performancetask_demog
Description: contains demographic information for CPS students for school year 2016

Name	Type	Length	Format	Label
STUDENT_UNIQUE_ID	Numeric	8		Student Unique Identifier
STUDENT_GENDER	Character	10		Student gender
STUDENT_RACE	Character	30		Student racial/ethnic code
ELL_STATE_STATUS	Character	3		Student English Learner Status as defined by the state of Illinois