

PEOPLESOFT QUERIES

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COMMUNITY COLLEGE DISTRICT | TRAINING AND DEVELOPMENT

Agenda

- Welcome/Introductions
- Today's Schedule
 - What is a Database?
 - Why do we Query?
 - Query Basics
 - PS Query Tab-By-Tab
 - Tips & Tricks
 - Example Queries
 - Questions

PeopleSoft Queries



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What is a database

da·ta·base

noun: **database**; plural noun: **databases**

A structured set of data held in a computer, especially one that is accessible in various ways.

What is a database

- Databases provide an efficient way to store, retrieve and analyze data.
- Relational Databases are structured to recognize relations among stored items of information.
- Before Databases, all data was stored in tab limited flat file. Multiple pieces of information called fields were grouped together into a record. Hard to search for content, create reports with only a few fields.

What is a database

- Databases contain a series of tables organized by key fields and unique IDs.
- Relational databases are created using a special computer language, Structured Query Language (SQL).
- Through SQL logic tables are joined to make a single database using Primary Keys, Foreign Keys, Super Keys, Composite Keys, and Compound Keys.

Key Structure in a Table

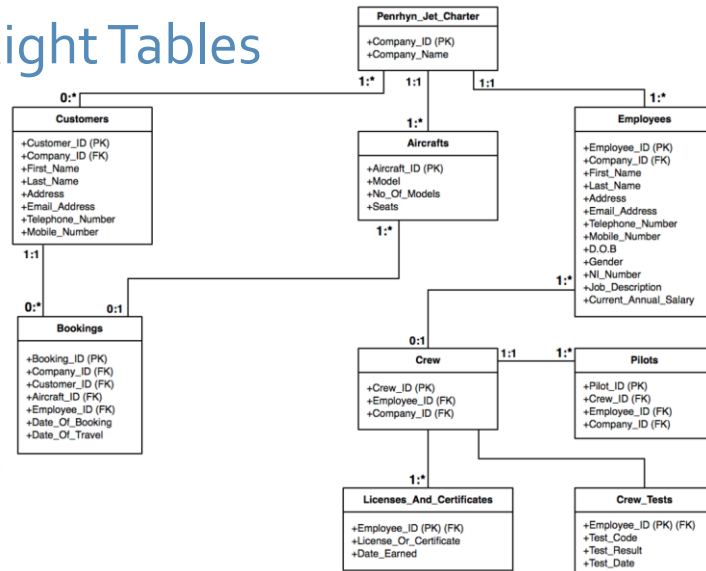
Class ID (↔)	Term (↔)	Subject	Catalog Number	Classroom
7854	2158	ENG	105	MB102
6543	2158	BIL	112	MM207
3982	2158	MTH	101	MM115
2098	2158	CHM	345	SCB453
7854	2159	ENG	105	MB102

Why do we Query?

- PeopleSoft is a set of thousands of tables interconnected by PeopleCode (Peoplesoft's proprietary coding language)
- We query in order to store, retrieve, and analyze the data housed in these thousands of tables.



Finding the Right Tables



Finding the Right Tables

- Campus Solutions
 - <http://peoplesoft.wikidot.com/campus-solutions-tables>
- HRMS (Foundational Tables):
 - <https://www.sbctc.edu/resources/documents/colleges-staff/data-services/peoplesoft-ctclink/hcm-common-tables-for-reporting.pdf>
- FSCM (Foundational Tables):
 - http://finance.fiu.edu/controller/Docs/Commonly_Used_Tables.pdf
- ELM
 - <https://peoplesofttutorial.com/complete-list-of-peoplesoft-elm-g-1-tables/>
- Query Manager PeopleBooks
 - https://docs.oracle.com/cd/E55244_01/pdf/acrobat/pt854tps-q-bo714.pdf

Queries – The Basics



Querying tools

- Most querying tools allow us to **create, retrieve and manipulate** data in tables
- Functional users, usually don't need to (and should never!) **change** (insert, delete or update) database without using the user interface.
- Querying should be done by functional users for **reporting purposes only**.
- To that end, you have access to the Peoplesoft Query tool - PSQuery

PSQuery

- Gives us an easy platform for finding the **right** tables
- Provides us with important information on each table – and a nice search tool to find them
- Makes it easy to make the **basic query statement**
- Organizes our data for us, and provides **output** options
- Helps us with dependencies and field names

The Basic Query Statement



The Basic Query Statement

```
Select [field(s)]  
From [table(s)]  
Where [criteria]
```

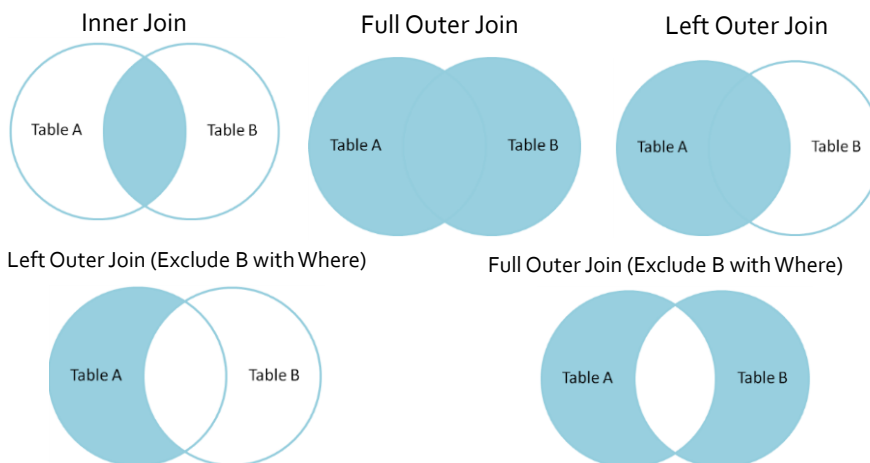
The Basic Query Statement

- Step 1 - know what **fields** you want (**Select**)
- Step 2 - find out what **tables** you need (**From**)
- Step 3 – define your criteria (**Where**)

The Basic Query Statement

- **SELECT** your columns – DISTINCT
FROM table names
JOIN table names – Inner Join, Outer Join, Full Join
WHERE condition
GROUP BY your columns – COUNT, SUM, AVG, MIN, MAX
HAVING aggregate column condition
ORDER BY your columns – ASC, DESC
- Do it all over in a Sub Query?

The Basics of SQL JOIN



Where do I begin?

- Begin with a whiteboard, or a pen and paper
- Define your SQL statements
- Think about your fields, criteria, and prompts
- When you're learning, start fresh **every time**, eventually, you will know the data well enough to build a basic query very quickly!



PSQUERY – Tab-By-tab

LOS RIOS CSPRD W1585338 Navigator Search Advanced Search

Records Query Expressions Prompts Fields Criteria Having Dependency Transformations View SQL Run

Query Name New Unsaved Query Description Feed

*Search By Record Name begins with

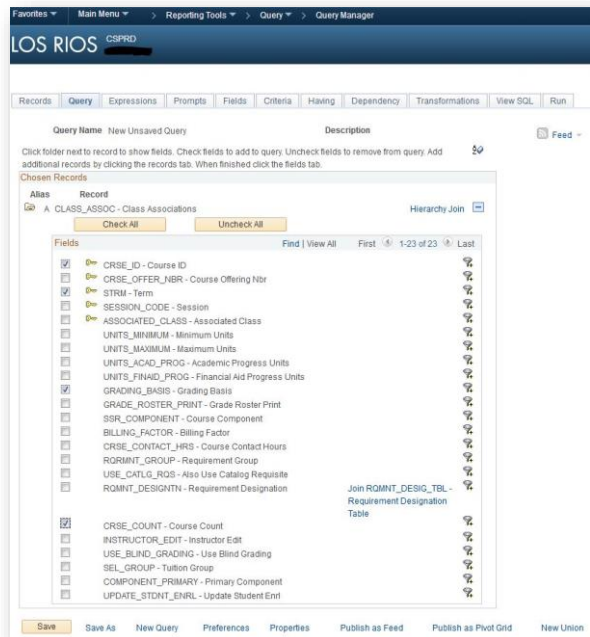
Search Advanced Search

Save Save As New Query Preferences Properties Publish as Feed Publish as Pivot Grid New Union

Return To Search

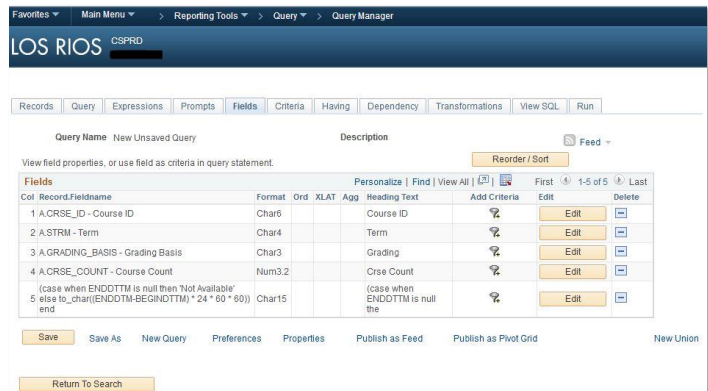
Query Tab

- Don't be too eager to select too many fields
- You can define criteria here, or on the criteria page (when starting out, use the criteria page)
- Always check to make sure your table makes sense before joining it in



Expressions Tab

- A means of defining your SQL statement – usually used in Select & Where statements
- For now, we will only define expressions on the criteria page
- Anything that can be used in an Oracle database* can be used in an expression
- The internet is a great resource to find expressions



Edit Expression Properties

*Expression Type: Length:

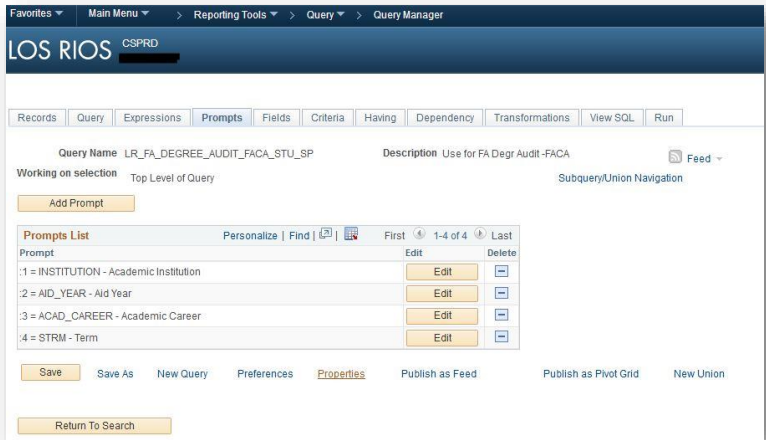
Aggregate Function Decimals:

Expression Text:
 (case when ENDDTTM is null then 'Not Available' else to_char(round(ENDDTTM - BEGINDTTM) * 24 * 60 * 60) end) AS PROCESSING_TIME

[Add Prompt](#) [Add Field](#)

Prompts Tab

- Prompts are also known as bind variables
- Prompts are completely user configurable – you can decide the length, the format, the edit type*, and specify a default value



Prompts Tab

Edit Prompt Properties

Field Name:

*Type: Character

*Format: Upper

Length:

Decimals:

*Edit Type: No Table Edit

Optional

Default Value:

*Heading Type: Text

Heading Text:

*Unique Prompt Name: BIND1

Prompt Table:

OK Cancel

Select a Prompt Field

Search by: Fieldname | Begins with: INSTITUTION

Search Cancel No Value

Search Results

Select a Prompt Field

Select a Prompt Field
INSTITUTEION
INSTITUTEION_ADJ
INSTITUTEION_ALL
INSTITUTEION_DESCR
INSTITUTEION_LBL
INSTITUTEION_NAME
INSTITUTEION_PA
INSTITUTEION_PN
INSTITUTEION_SET
INSTITUTEION_SET2
INSTITUTEION_SRC
INSTITUTEION_SRCH
INSTITUTEION_TYPE

*Edit Type

No Table Edit

No Table Edit

Prompt Table

Translate Table

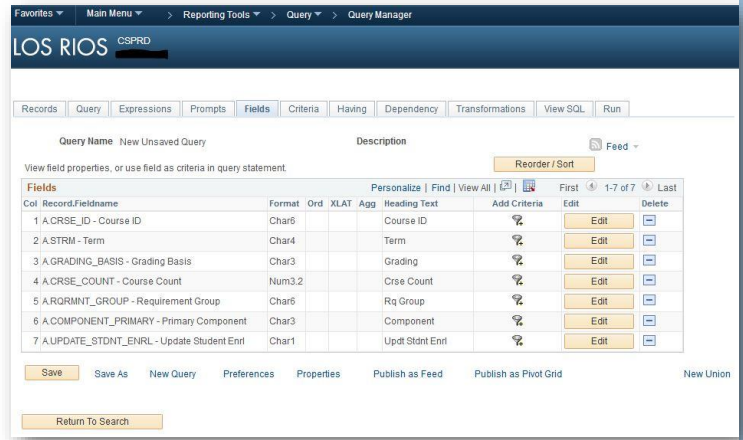
Yes/No Table

Select a Prompt Table

Select a Prompt Table
INSTITUTEION_TBL - Institution Table

Fields Tab

- You can use the field tab to define the **display information** for your fields. Based on the tables you choose, these will be defined for you – however (as with everything else) they are **configurable**
- You can always change the field header
- Keep an eye out for **translate values** that can display several different sets of values based on your choice



Fields Tab

- You can always change the field header
- Keep an eye out for **translate values** that can display several different sets of values based on your choice

Edit Field Properties

Field Name: A.DEGR_CHKOUT_STAT - Degree Checkout Status

Heading	Aggregate	Translate Value
<input type="radio"/> No Heading <input checked="" type="radio"/> RFT Short <input type="radio"/> Text <input type="radio"/> RFT Long Heading Text: <input type="text" value="ChkoutStat"/> *Unique Field Name: <input type="text" value="A.DEGR_CHKOUT_STAT"/>	<input checked="" type="radio"/> None <input type="radio"/> Sum <input type="radio"/> Count <input type="radio"/> Min <input type="radio"/> Max <input type="radio"/> Average	<input checked="" type="radio"/> None <input type="radio"/> Short <input type="radio"/> Long Effective Date for Short/Long: <input checked="" type="radio"/> Current Date <input type="radio"/> Field: <input type="text"/> <input type="radio"/> Expression: <input type="text"/>

OK Cancel

Edit Field Ordering

Reorder columns by entering column numbers on the left. Columns left blank or assigned a 0 will be automatically assigned a number. Change the order by number by entering numbers on the right. To remove an order by number, leave the field blank or enter a 0.

New Column	Column	Record.Fieldname	Order by	Descending	New Order By
	1	A.EMPLID - Empl ID		<input type="checkbox"/>	
	2	A.ACAD_CAREER - Academic Career		<input type="checkbox"/>	
	3	A.STDNT_CAR_NBR - Student Career Nbr		<input type="checkbox"/>	
	4	A.EFFDT - Effective Date		<input type="checkbox"/>	
	5	A.EFFSEQ - Effective Sequence		<input type="checkbox"/>	

Criteria Tab

- Define your fields
- Choose your **Operand** (and, or, >, <, >=, <=, between, in list, like, equal to, not equal to, not in list, not like)
- Be smart with your Operand!

LOS RIOS CSPRD

Report Tools > Query > Query Manager

Edit Criteria Properties

Choose Expression 1 Type

Field
 Expression

Expression 1

Choose Record and Field

Record Alias.Fieldname

A.STRM - Term

*Condition Type equal to

Choose Expression 2 Type

Field
 Expression
 Constant
 Prompt
 Subquery

Expression 2

Define Constant

Constant 1193

OK Cancel

Criteria Tab

- Choose your **Operand** (and, or, >, <, >=, <=, between, in list, like, equal to, not equal to, not in list, not like)

LOS RIOS CSPRD

Report Tools > Query > Query Manager

Edit Criteria Properties

Choose Expression 1 Type

Field
 Expression

Expression 1

Choose Record and Field

Record Alias.Fieldname

A.STRM - Term

*Condition Type

- equal to
- between
- does not exist
- equal to exists
- greater than
- in list
- in tree
- is not null
- is null
- less than
- like
- not between
- not equal to
- not greater than
- not in list
- not in tree
- not less than
- not like

OK Cancel

LOS RIOS CSPRD

Report Tools > Query > Query Manager

Edit Criteria Properties

Choose Expression 1 Type

Field
 Expression

Expression 1

Choose Record and Field

Record Alias.Fieldname

A.DECLARE_DT - Declare Date

*Condition Type between

Choose Expression 2 Type

Const - Const
 Const - Field
 Const - Expr
 Field - Const
 Field - Field
 Field - Expr
 Expr - Const
 Expr - Field
 Expr - Expr

Expression 2

Define Constant

*Date 15

Define Constant 2

*Date 2 15

OK Cancel

Criteria Tab

Records Query Expressions Prompts Fields Criteria Having Dependency Transformations View SQL Run

Query Name: New Unsaved Query Description: Feed

Working on selection: Subquery for exists [Subquery/Union Navigation](#)

*Search By: Record Name begins with

[Advanced Search](#)

Search Results

Record	Personalize	Find	View All	First	1-20 of 41	Last
ACCOUNT_ORG_SF - Account (Student Financials)	Add Record	Show Fields				
ACCOUNT_ORG_VW - Account Org View	Add Record	Show Fields				
ACCOUNT_SF - Account (Student Financials)	Add Record	Show Fields				
ACCOUNT_SF_O - Account (Student Financials)	Add Record	Show Fields				

Select subquery or union to navigate to

Left | Right

- [Top Level of Query](#)
- [Subquery for exists](#)

Outer Join vs Inner Join

- To outer join, change each of your join criteria to [fieldname]

Select join type and then record to join with ACCOUNT_VW - Account View.

Join Type

Join to filter and get additional fields (Standard Join)

Join to get additional fields only (Left outer join)

Join Record

A = ACCOUNT_SF - Account (Student Financials)

Edit Criteria Properties

Choose Expression 1 Type

Field

Expression

Expression 1

Choose Record and Field

Record Alias.FieldName

*Condition Type: equal to

Choose Expression 2 Type

Field

Expression

Constant

Prompt

Subquery

Expression 2

Choose Record and Field

Record Alias.FieldName

Having (and aggregate functions)

Query Name: New Unsavd Query Description: Feed

View field properties, or use field as criteria in query statement. Reorder/Sort

Col	Record/Fieldname	Format	Ord	XLAT	Asq	Heading Text	Add Criteria	Edit	Delete
1	A.EMPLID - Empl ID	Char11				ID		Edit	
2	A.ACCOUNT_TERM - Account Term	Char4				Acct Term		Edit	
3	A.ACCOUNT_TYPE_SF - Account Type	Char3				Acct Type		Edit	
4	A.ACCOUNT_BALANCE - Account Balance	SNM16.2			Sum	Sum Balance		Edit	
5	A.ACAD_YEAR - Academic Year	Char4				Acad Year		Edit	

Save Save As New Query Preferences Properties Publish as Feed Publish as Pivot Grid New Union

Edit Field Properties

Field Name: A.ACCOUNT_BALANCE - Account Balance

Heading

No Heading RFT Short
 Text RFT Long

Heading Text:

*Unique Field Name:

OK Cancel

Aggregate

None Sum
 Count Min
 Max Average

Query Name: New Unsavd Query Description: Feed

Add Having Criteria Group Having Criteria

Logical	Expression1	Condition Type	Expression 2	Edit	Delete
	A.ACCOUNT_BALANCE - Account Balance	greater than	0	Edit	

Save Save As New Query Preferences Properties Publish as Feed Publish as Pivot Grid New Union

View SQL Tab

- Check your work!!
- Always come back to this tab to see how the criteria you add factor into the SQL statement.

LOS RIOS CSPRD

Records Query Expressions Prompts Fields Criteria Having Dependency Transformations View SQL Run

Query Name: New Unsavd Query Description: Feed

XLAT/Related Language

Query SQL

```
SELECT A.EMPLID, A.ACAD_CAREER, TO_CHAR(A.DECLARE_DT,'YYYY-MM-DD'), A.COMPLETION_TERM
FROM PS_ACAD_PLAN A
WHERE ( A.EFFDT =
(SELECT MAX(A_ED.EFFDT) FROM PS_ACAD_PLAN A_ED
WHERE A.EMPLID = A_ED.EMPLID
AND A.ACAD_CAREER = A_ED.ACAD_CAREER
AND A.STDNT_CAR_NBR = A_ED.STDNT_CAR_NBR
AND A_ED.EFFDT <= SYSDATE)
AND A.EFFSEQ =
(SELECT MAX(A_ES.EFFSEQ) FROM PS_ACAD_PLAN A_ES
WHERE A.EMPLID = A_ES.EMPLID
AND A.ACAD_CAREER = A_ES.ACAD_CAREER
AND A.STDNT_CAR_NBR = A_ES.STDNT_CAR_NBR
AND A.EFFDT = A_ES.EFFDT)
AND A.DECLARE_DT BETWEEN TO_DATE('2000-01-01','YYYY-MM-DD') AND TO_DATE('2019-01-01','YYYY-MM-DD'))
```

Save Save As New Query Preferences Properties Publish as Feed Publish as Pivot Grid New Union

Return To Search

Query Name: New Unsavd Query Description: Feed

Query SQL

Query is invalid. You must choose at least one record from the records tab and then select one field on the query tab or use an expression as a field before the query sql can be viewed. For queries with subqueries or unions, at least one record from the records tab in each subquery or union must be selected also.

Run Tab

- Once you run the query, you can download the output to excel
- Rerun your query to enter new bind variables (prompts values)

LOS RIOS CSPRD

Records Query Expressions Prompts Fields Criteria Having Dependency Transformations View SQL Run

View All | Rerun Query | Download to Excel | Download to XML

First 1-66 of 66 Last

Course ID	Offer Nbr	Term	Session	Assoc	Min Units	Max Units	Prgrs Unit	FA Units	Grading	Roster	Component	BillFactor	Crs Cntct	Rq Group	Catlg Rqs	Designation	Crs Instr Count	Instr Edit	Blind Grd	Group	Component	Updt Stdnt Enrt
1	022321	1	1193	FT	10	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	N		1.00	N	N		LEC	N
2	022321	1	1193	FT	11	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	
3	022321	1	1193	FT	12	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	
4	022321	1	1193	FT	13	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	
5	022321	1	1193	FT	14	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	
6	022321	1	1193	FT	15	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	
7	022321	1	1193	FT	16	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	
8	022321	1	1193	FT	17	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N
9	022321	1	1193	FT	18	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N
10	022321	1	1193	FT	19	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N
11	022321	1	1193	FT	20	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N
12	022321	1	1193	FT	21	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N
13	022321	1	1193	FT	22	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N
14	022321	1	1193	FT	23	3.00	3.00	3.00	3.00	GRD	C	LEC	1,000	3.00	Y		1.00	N	N		LEC	N

SAVE your work!

- Save your query for future use
- Query Type: Archive, Process, Role, User (preferred)
- Owner: Public Vs Private Queries

Enter a name to save this query as:

*Query

Description

Folder

*Query Type

*Owner

Query Definition:

Things to Remember

Some Tips & Tricks



Some Caveats

- Always define some criteria first (you don't want to try and retrieve 100K rows of data)
- Limit your results with criteria/prompts when you are testing.
- Check your work early and often
- Have good joining practices (don't automatically go with what PSQuery gives you, double check)
- **Think** about what you are asking the database to provide you with
- Look at your SQL statement – understanding how the criteria factor into the query is the key

CAVEAT

A hand holding a blue marker is shown at the bottom right, having just finished underlining the word 'CAVEAT' in blue capital letters.

Some Caveats

- Be smart, know more about your pages
 - Talk to programmers about records (fields) on a page (Application Designer)
 - Hit Ctrl+J (or J+Ctrl) – Provide Page, Component, Menu details
 - Watch out for work records – used in PeopleSoft for presenting data
 - Use Plugins to identify records, manage links and features (Free ones exist for Google Chrome)
 - View Page Source and get some information
 - Watch out for Page Source Vs Frame Source



PSChrome

Offered by: melban.me

Usability features without PeopleSoft customizations.

★★★★★ 47 Productivity



PS Utilities

Offered by: Uffe Graakjaer

PeopleSoft Utilities - increase usability and productivity.

★★★★★ 37 Productivity

Example Queries



