Welcome!

At the end of this course users will:

- Be able to add criteria to left outer joins.
- Utilize subqueries to effectively search for query data information.
- Efficiently find record and field information using the front end of PeopleSoft in conjunction with other tools.
- Gain the knowledge and skills to check your query results to be confident of query accuracy.
- Effectively apply aggregate functions to query results.
- Be able to create expressions to allow complex refining of query results.
- Understand BND records and how they affect query development.

Standard Joins

Standard joins only display rows where there is a match between BOTH records, meaning it is possible not all of the rows from Record A will be displayed.
Outer Join

This join type will always display all of the rows in Record A. It will only display BLANK where there is no match.

Example: Normal Outer Join

Suppose we wanted to have a list of all our enrolled GRAD students for Fall 2016 and we want to know if they have a mobile phone number stored in our system.

Start with your base query: Add the STDNT_CAR_TERM record and define your enrollment criteria:

Next, look up the PERSONAL_PHONE record. We are going to outer join this record to STDNT_CAR_TERM. When you click the “Join Record” button, select the outer join option on the next screen:
You should now notice a couple of differences in your query. The first is on your Query tab: the phone record has additional information next to its name, indicating that it is outer joined and which record it is joined to:

The second is on your Criteria tab. Any criteria for outer joins has an additional column filled in: “Belongs to”.

This new criteria column will become important when we narrow our results. Go back to your Query tab and add new criteria on the PHONE_TYPE field in the phone record. Since this is an outer join, you will have to change the “belongs to” field at the bottom to the same letter as the record (in our case, since we are adding criteria to record B, the criteria should belong to outer join B). Click “OK”.
Correct outer join

Criteria have been erroneously placed on the WHERE clause.

Add Criteria to Your Left Outer Join

Add Criteria to a Left Outer Join – Simplified Instructions

- Create a query that has a left outer join; select a field from the record which has been left outer joined and add criteria to it; either from the Criteria tab or the Add Criteria icon.
- In the “Criteria Belongs To” box select the outer join clause that matches the record alias (for example, Record B).
- Select fields from both records.
SubQueries

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Expression Basics
Step 1. Create literal value as a column

2 common types of criteria conditions for sub-queries.
1. Using IN list
2. Using EXISTS which does not require using a field.
The 2 look very different.
Expression Operator Basics

<table>
<thead>
<tr>
<th>Operator</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>Addition operator</td>
</tr>
<tr>
<td>-</td>
<td>Character string delimiter</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>/</td>
<td>Division operator</td>
</tr>
<tr>
<td>)</td>
<td>Expression or list ending delimiter</td>
</tr>
<tr>
<td>,</td>
<td>Item Separator</td>
</tr>
<tr>
<td>=</td>
<td>Relational operator (equal)</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>Relational operator (not equal)</td>
</tr>
<tr>
<td>&lt;</td>
<td>Relational operator (less than)</td>
</tr>
<tr>
<td>&gt;</td>
<td>Relational operator (greater than)</td>
</tr>
<tr>
<td>&lt;=</td>
<td>Relational operator (less than or equal)</td>
</tr>
<tr>
<td>=&gt;</td>
<td>Relational operator (greater than or equal)</td>
</tr>
<tr>
<td>;</td>
<td>Statement terminator</td>
</tr>
<tr>
<td>-</td>
<td>Subtraction operator</td>
</tr>
<tr>
<td>*</td>
<td>Multiplication operator</td>
</tr>
</tbody>
</table>

Expressions

Expressions are calculations that PeopleSoft Query performs as part of a query. Use them when you must calculate a value that PeopleSoft Query does not provide by default—for example, to add the values from two fields together or to multiply a field value by a constant.

Use Expressions in two ways:

- As comparison values in selection criteria.
- As columns (fields) in the query output.

Expression Basics

Example: Translating Values

Suppose we wanted to look at `STDNT_CAR_TERM` and count the number of students enrolled in each class standing (freshman, sophomore, junior, etc.) for Fall 2016. You can add `STDNT_CAR_TERM` field and add your fields.
Click the “Edit” button next to the EMPID field and apply the count aggregate function.

Next, add your criteria:

Case statement

If you run your query now, the academic level will read “10,” “20,” “30,” and other values that may not make much sense unless you know what each one means. The user should know what they mean. Doing this can make the query easier to read at a glance.

For most queries, you will want to remove the field that you are translating from the query. There’s no need to keep such fields if you are creating new stuff. For the sake of the example, however, keep it in if you want to see the “before and after” contrast.

Head over to the Expressions tab and add a new expression.

The easiest way to translate our system values is through a CASE statement expression. They are written like this:

```
CASE
  WHEN A.FIELDNAME = 'system value 1'
      THEN 'your value'
  WHEN A.FIELDNAME = 'system value 2'
      THEN 'your value'
  ELSE 'default value'
END
```
Expression Basics
Numeric Step 2: Use field as a column in the result set

Using Expressions vs Criteria

Advanced Functions
Expression Gotchas

Case statements –
When there is a possibility of not meeting your specified condition(s) which can cause multiple rows to be returned for the same entry. To get around this you can use Aggregates such as minimum or maximum to specify which value you want to return.

ROWNUM – this is not an absolute value so if you specify a ROWNUM not greater than 200 you may for example get 210 rows.

Anytime you are working with numbers there is a potential for data distortion. You can get around this by using a sum or count expression but that may also eliminate rows that you may need. There are a few cases where you can still get incorrect data using this type of expression. An example is when data distortion occurs in the STDNT_AWRD_DISB record, where a student has multiple disbursements of the same dollar amount. The disbursement is saved as one entry but discard all others, resulting in a dollar amount that is too small. Be on the lookout if you think that this type of error is a possibility in your query. Removing the DISTINCT from your expression will bring back the data distortion, so there is no way around this issue.

Bind Records

Pop Select Query Protocol

Pop Select Queries have the following protocol:
1. Identify the Query/Batch Process relationship. If unsure what the relationship is submit a ticket to Enterprise Systems to ensure that the correct Query is tied to the correct process or look at a query that is already using a BIND record to see what it is doing.
2. All key fields in the BIND record must be displayed in the Query results.
3. Only display the BIND record key fields in the Query results. a. In some batch processes if any other column is displayed besides a BIND record key field it will cause the process to fail. If it is desired to use the Pop Select Query for data values in addition to use in the batch process it is recommended to create two separate Queries.
4. Always include POP or POPSEL in the Query name at the end of the Query. For example, WSU_1M_RATE_POPSEL.
5. Describe the Query as a Pop Select Query in the description.
6. Provide a full Definition, including the batch process the Query is tied to.
Aggregates Function

Having

Having Criteria Tab
Create Your Own Query!