

Banner Handout:

CRYSTAL REPORTS 8 - TERMS and HINTS

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Purpose:

This document contains hints about using Crystal Reports 8 at Hamline University. Many of the hints have to do with specific data views used at Hamline.

What is Crystal:

Crystal is a Windows-based ad-hoc report-writing program. It is used at Hamline to supplement the baseline and Hamline developed reports that are run from Banner. Although it exists outside the Banner system, it is used to report on information entered into the Banner database. Because it is a Windows program and fairly easy to use, it is meant to be used by the staff in various offices, rather than having to request a standard Banner report from the ITS programming staff. It also produces reports of higher quality, since various fonts, crosstabs, graphics, color, and other additional features are available.

When to use Crystal:

Crystal should be used when you either need a high quality report (letters, color, tables, etc), when you need a “quick” answer that you may never need again, or when you don’t want to put a request in to the ITS programming staff and want to do it yourself.

Views:

A view is a collection of Banner data of a certain type (ID/name, address, constituent, test score, employee, account detail, etc.). Some views may contain information from multiple locations in the Banner database joined together. Views are rectangular arrays of information comprised of “fields” (columns) and “records” (rows of data).

All Crystal reports are made up of one or more views, depending on what information is needed for display, selection, and sorting. When more than one view is used, the views must be “linked” in a certain way in order to insure that information in one view matches the same person as data in other views.

When selecting a view to use in your report, you should always be aware of what the unique criteria is for that view. This information is generally available in the “List of Crystal Views” report. For example, if the description of the view says “One row per person”, then printing the detail or linking with other views should not be a problem. If, however, the description says “One row per person per donor category”, then you need to be aware that:

1. Only those people with a donor category will be on the view, and
2. if you link this view with a second view and display information from the second view, the information will repeat for each of the donor categories in the first view.

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In all Hamline views, the following conventions are used:

1. Field names ending with “**_IND**” are “indicators”. These fields should always contain the values “Y” or “N” and never be blank. These fields are used for display as well as selection and sorting.
2. Field names ending with “**_CODE**” are “codes”. These fields should almost always contain a coded value from Banner. Lookup tables containing valid codes are available in Banner. These fields are used for display as well as selection and sorting.
3. Field names ending with “**_DESC**” are “descriptions”. Where there is a code in the view, a description field containing information about what that code means should follow. These fields should be used as display or sorting only, and should not be used to select records.
4. Field names ending with “**_STRING**” contain lists of codes. For example, the **DONOR_CODE_STRING** field contains a list of all donor category codes assigned to this person. These fields should be used as display only, and should not be used to select or sort records.
5. Field names ending with “**_KEY**” contain items that should be either specified in the select condition or linked (when more than one view is used).

Some hints about specific views/fields:

1. There are several **FULL_NAME** fields in the **HG_IDENTIFICATION**, **HG_PERSON**, **HA_CONSTITUENT**, and other views:
 - a. Name fields ending with “**_LFMI**” format the name in Last, First Middle Initial format.
 - b. Name fields ending with “**_FL**” format the name in First Last format.
 - c. Name fields ending with “**_FMIL**” format the name in First Middle Initial Last format.
 - d. Name fields ending with “**_DECEASED**” format the name in LFMI followed by an asterisk (*) if the person is deceased.
2. Use the **DEAD_IND** field to include/exclude people who are deceased (=Y).
3. Use the **PERSON_COMPANY_CODE** to include/exclude companies (vs people) (=C).
4. Address views contain a row for every person for every combination of address types. Because of this, you must specify an **INTERNAL_CODE** or the report will take a long time to run and you will display many rows for each person. The **INTERNAL_CODE** contains combinations of two and three address type codes.

For example, if you want to display the “Mailing Address” (MA), but if they don’t have a mailing address, you wish to display the “Permanent Address” (PR), but if they don’t have a mailing or permanent address, you wish to display the “Business Address” (BU), you should specify “MAPRBU” in the **INTERNAL_CODE** field when you select records.
5. Telephone views contain a row for every person for every telephone type. Because of this, you must specify a **PHONE_TYPE_CODE** or the report will take a long time to run and you will display many rows for each person. For example, if you want to display the “Current Phone” (MA), you should specify “MA” in the **PHONE_TYPE_CODE** field when you select records.
6. The “**GENDER**” field is always F (female), M (male), or N (unknown).

7. Each person in Banner is uniquely identified by a hidden field called the “**PIDM**” field. All data tables pertaining to specific people have a PIDM field that flags the field as pertaining to “that” person.

For example, a person may be known in Banner as PIDM=2090. The ID, address, general person, constituent, admission application, employee, etc tables will all contain a PIDM field that contains the value 2090 for that person. Note that using the PIDM field instead of the SSN as the primary identifier for people allows for multiple IDs (under the same PIDM) for a single person - or company.

In Crystal views, the “PIDM_KEY” field contains this Personal ID Master number.

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Linking:

Whenever more than one view is used in a single report, the views must be “linked” together. This is a way of insuring that records of data from one view match the same person as the records of other views.

Crystal will automatically link all fields that have the same name between views. For example, the PIDM_KEY field from one view will automatically link with the PIDM_KEY field in a second (or third) view. It is important, for optimal performance and data accuracy, to only link fields ending with “_KEY”, for example: PIDM_KEY, TERM_CODE_KEY, FSyr_CODE_KEY, AID_YEAR_KEY.

When linking two or more views, the result is a cross-product of the information in each of the views. For example, suppose we wanted to link the HG_IDENTIFICATION, HG_ADDRESS, and HA_DONOR_CODES views:

View	HG_IDENTIFICATION	HG_ADDRESS	HA_DONOR_CODES
	One row per person	One row per person per address hierarchy	One row per person per donor category
Data	Ron Lutz	MA Mailing Address MAPR Mailing Address PRMA Permanent Address BUMA Mailing Address BU - empty row -	USTF Staff CLA CLA Alum

In this example, if no “INTERNAL_CODE” or “DONOR_CODE” fields were specified, the person “Ron Lutz” would display 10 times; one for each combination of 1 name, 5 addresses, and 2 donor categories (1 X 5 X 2).

Hints Specific to University Relations:

LOST (in the HA_CONSTITUENT view) means that no active address exists for this person.

Exclusion indicators (EXCLUDE_MAIL_IND, EXCLUDE_PHONE_IND, EXCLUDE_SOLICITATION_IND, EXCLUDE_EMAIL_IND in the HA_CONSTITUENT view) are Y when the person does not want ANY contact of that type. Individual exclusions for other mailings should be derived from the HA_EXCLUSIONS view.

The Preferred Donor Category (**PREF_DONOR_CODE** in HA_CONSTITUENT) is determined by finding the donor code with the smallest Report Sequence Number (on ATVDONR). Where there is a tie for the smallest sequence number, the code that sorts first in the alphabet is used. For example, since CLA (CLA Alum) and MAED (MAED Alum) both have a sequence number of "8" defined, someone coded with both CLA and MAED would show as a "CLA Alum" as their preferred donor category. (NOTE: do not get this confused with the Class and Year fields). To obtain lists of people with certain donor codes (that may not be mutually exclusive), use the HA_DONOR_CODES view.

In general, the **GIFT_DETAIL** views list individual gift records broken down by designation, campaign, solicitation, or individual gift. The **GIVING_BY** views list data combined over several fiscal years and allow you to compare one year with another.

When you want to select a specific mail code, donor code, exclusion code, or activity code for people, use the HA_MAIL_CODES, HA_DONOR_CODES, HA_EXCLUSIONS, or HA_ACTIVITIES view. When you simply wish to display what mail, donor, exclusion, or activity codes exist for a person, you need only display the MAIL_CODE_STRING, DONOR_CATEGORY_STRING, EXCLUSION_STRING, or ACTIVITY_STRING fields, which are each a single string containing the corresponding codes with a single space between them.

