Module 10

Creating Temporary Fields

In this module you will learn:

- Overview of temporary fields

- Syntax for computed fields

- General syntax for defined fields

- Syntax for decode expression

Supporting Documents/Files:

- CIRS Data Element Dictionary

- FOCUS Documentation

Temporary Fields Overview

A variety of temporary fields can be created from existing fields in the database by using the COMPUTE and DEFINE commands. The maximum number of fields, both real and defined, that can be referenced in a report request is 256.

The major difference between COMPUTE and DEFINE is the point of calculation.

Computed fields are calculated on the results of a SUM, PRINT, or COUNT command <u>after</u> all records have been selected, sorted, and summed.

Defined fields are calculated <u>after</u> records are selected per the screening criteria, but <u>before</u> the sorts and display commands are applied.

Syntax For Computed Fields

Temporary fields created by the COMPUTE command, are calculated on the **table results** after all records have been selected, sorted, and summed. The syntax is:

> **TABLE FILE filename**
> **display command**
> **COMPUTE newfield [/format] = expression;**
> **END**

filename   Any database available in CIRS.

display command   Is PRINT, SUM OR COUNT followed by fieldname(s). Also referred to as the verb phrase.

newfield   New name for the field being created. The name can contain up to 12 characters without blanks. Special characters allowed are the dollar sign ($), colon (:), underscore (_) and pound sign (#).

/format   Optional command to specify the format type, length and edit options for the values of the new field.

= expression;   Expression establishing the value of the new field.

- Specify the COMPUTE command after the display command inside the TABLE request.

- Computed fields are only available for the specified report request.

- Optionally, a field can be referred to by its report column position (C1 for the first column, C2 for the second, etc). BY fields are not counted.

- Only 256 fields may be defined for a single file and the total length of all defined fields and real fields cannot exceed 12,288 characters.

- The computed field can be used in subsequent screening statements, but cannot be used as sort fields.

Compute Example

The report example below uses the COMPUTE command to determine the new salary rate for employees after receiving a 3 percent increase.

Report Request:

```
-* EMPLOYEE SALARY INFO
EX AC
TABLE FILE AC
PRINT AC:CLASS AC:BASEPAY
COMPUTE NEWSAL = AC:BASEPAY * 1.03;
BY AC:WNAME
END
```

Report Generated:

```
AC:WNAME                     CLS        AC:BASEPAY        NEWSAL
--------                     ---        ----------        ------
COUGAR, CHRIS                2358       $6,278.00       6,569.34
FROG, NANCY L                3306       $9,375.00       9,656.25
LION-JUGUAR, ANN             2355         $800.00         824.00
MONKEY, GORDON S             2360       $6,868.00       7,074.04
NEWT, KATHERINE              2358       $4,110.00       4,233.30
```

Compute Practice

Modify your report request named TRAIN4 to include an annual salary rate. Use the COMPUTE command to determine the annual rate.

Report Generated:

```
AGY   UNT              AC:SALARY            ANNUAL
---   ---              ---------            ------
160   194              $3,664.00          43,968.00
      232              $2,865.00          35,380.00
      401              $7,259.00          87,108.00
230   200              $5,281.00          63,372.00
      210              $3,371.00          40,452.00
```

Report Request:

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Syntax For Defined Fields

Temporary fields can be created using the DEFINE command. The calculation is performed on each record retrieved per the screening statements. The result of the expression is treated as though it is a real field stored in the database. The syntax is:

> **DEFINE FILE filename ADD**
> **newfield/format = expression;**
> **END**

filename   Any database available in CIRS.

newfield   New name for the field being created. The name can contain up to 12 characters without blanks. Special characters allowed are the dollar sign ($), colon (:), underscore (_) and pound sign (#).

/format   The type, length and edit options for the new field values. Valid types are A (alphanumeric), D (floating-point double-precision), F (floating-point single-precision), I (integer), P (packed decimal), and D, W, M, Q, or Y used in a valid combination (date). The length of the format cannot exceed 8 characters.

= expression; Expression establishing the value of the new fieldname. Note: There are several types of expressions. This workbook will only discuss DECODE expressions. For information on the other expressions, refer to your FOCUS documentation.

END   Required to end the DEFINE.

- Specify the DEFINE command after executing the standard defines for the file and before beginning the TABLE request.

- ADD must be part of the syntax to add the new FIELDNAME(s) to the automated DEFINES for the database.

- Once a new FIELDNAME is defined, it is available for the entire FOCUS session and can be used in verb phrases, sort phrases, screening statements or in another define expression.

- Only 256 fields may be defined for a single file and the total length of all defined fields and real fields cannot exceed 12,288 characters.

- Alpha (A) values and Smart Dates must be enclosed in single quotes.

Decode Expression

The decode expression can be used to create new file values for existing values when there is a one-to-one relationship. The syntax is:

> **DEFINE FILE filename ADD**
> **new_field/format = DECODE fieldname**
> **(value 'new value'**
> **value 'new value');**
> **END**

- All values containing special characters or blanks must be enclosed in single quotes (including negative numbers).

- Alphanumeric or numeric values can be decoded.

- The decode expression cannot be used for 'AND' or 'OR' conditions.

- By default, alphanumeric field values that are not explicitly listed will be assigned a blank value. Integer fields will be assigned a numeric zero (0).

Define Example

Report Request:

```
EX AC
DEFINE FILE AC ADD
GENDER/A6 = DECODE AC:SEX
           (F FEMALE
            M MALE);
END
TABLE FILE AC
COUNT AC:SSA
BY GENDER
ON TABLE COLUMN-TOTAL
END
```

Report Generated:

```
        AC:SSA
GENDER  COUNT
------  ------
             1
FEMALE   1855
MALE     1419

TOTAL    3275
```

Define Practice

Modify your report named TRAIN5 so that the values 'female' and 'male'
are displayed instead of the characters 'F' and 'M'. Use the DECODE
expression to define the new values.

Report Generated:

```
                SEX
                FEMALE    MALE
  AC:ETHNICGRP
  -----------------------------
  AMI                  1       0
  ASN                 17      17
  BLK                 11      16
  HSP                 10       8
  N/A                  0       1
  WHT                211     208
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What You Have Learned

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- Overview of temporary fields

- Syntax for computed fields

- General syntax for defined fields

- Syntax for decode expression