

Appendix
B

WORKSHOP

*Get on the
Fast Track!*



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1 SMS: Introduction

Review Questions

1. _____ describes data allocation characteristics, performance and availability goals, backup and retention requirements, and storage requirements for the system.
2. The utility _____ is used to define and maintains policies to manage the storage resources.
3. _____ provides host system backup and recovery functions at both the dataset and volume levels.
4. Library management is used to create _____ libraries.
5. _____ routines assign classes to data, based on its requirements and attributes, and select target storage groups.

2 SORT Utility

The dataset with the following record layout will be provided by the instructor:

Project Master Data

| Field | Start | Length |
|------------|-------|----------|
| Project ID | 1 | 5 |
| Name | 6 | 20 |
| Department | 30 | 2 |
| Cost | 35 | 7 digits |

1. Sort the data by Department and Cost in ascending order.
2. Sort the data by Name in descending order.
3. Create a summary dataset contain one record for each Department with the total Cost for the Department.
4. Sort the data by department but only output the first 20 records.
5. Sort the data by cost for only one Department (i.e. Department 10).
6. Sort the data by cost for all Departments except one (i.e. Department 10).
7. Sort the data by Department and the only field on the output dataset should be Department.
8. Sort the data by Department and Cost and the only fields on the output dataset should be Department and Cost.

3 Data Utilities with SORT Utility

The dataset with the following record layout will be provided by the instructor:

Project Master Data

| Field | Start | Length |
|------------|-------|----------|
| Project ID | 1 | 5 |
| Name | 6 | 20 |
| Department | 30 | 2 |
| Cost | 35 | 7 digits |

1. Create an output file with only unique Departments in descending order.
2. Create an output file in Name order in the following format:

Name
5 spaces
Department
5 spaces
Cost
3. Copy the Project Master Data into a temporary datasets. Do not sort the output dataset.
4. There are 4 valid departments: 10,20,30 and 40. For each valid department, replace its value in the output dataset with:

10 Department 10
20 Department 20
30 Department 30
40 Department 40
5. Copy the dataset with a sequence number in column 73-80. The number should start at 10 and increment by 10.
6. Create a new dataset with Dept 10 records, Dept 20 records, and Dept 40 records.

4 Advanced IDCAMS Utilities

1. Using modal commands in IDCAMS, delete a VSAM dataset.

If the dataset does not exist, allocate the VSAM dataset.

If the dataset does exist, do not allocate the dataset and set the condition code to 12.
2. The VSAM dataset is a KSDS with the following attributes:

Key: beginning of the record.
Length: 5
Primary: 5 tracks
Secondary 10 tracks
Volume: ?????? or use storage class
Record Length: 50
3. Allocate a new QSAM dataset with the following attributes:

Record Length: 100
Block Size: Determine by the operating system
Format: Fixed
Primary: 3 tracks
Secondary: 5 tracks
STORCLAS: use shop standards
4. Use the EXAMINE utility on the VSAM dataset in step 1. Did it detect any error?

What are the errors?
How can the errors be fixed?

5 Conditional Step Execution

1. Code a three step in-stream procedure that performs the following:

| | |
|--------|---|
| Step 1 | Using IDCAMS, set the condition to a constant value. This condition code will be used in the subsequent steps. |
| Step 2 | Run an IEBGENER to copy in-stream data to a temporary dataset. Only run this step if the condition code from step 1 is zero. Use the COND parameter. |
| Step 3 | Run an IEBGENER to copy in-stream data to another temporary dataset. Only run this step if the condition code from step 1 is zero and step 2 is zero. Use the COND parameter. |

2. Code a three step in-stream procedure that performs the following:

| | |
|--------|---|
| Step 1 | Using IDCAMS, set the condition to a constant value. This condition code will be used in the subsequent steps. |
| Step 2 | Run an IEBGENER to copy in-stream data to a temporary dataset. Only run this step if the condition code from step 1 is zero. Use the IF statement. |
| Step 3 | Run an IEBGENER to copy in-stream data to another temporary dataset. Only run this step if the condition code from step 1 is zero and step 2 is zero. Use the IF statement. |

6 Referback Options

1. Using the JCL from the previous exercise, either with COND or IF, modify the third step to use the same dataset created in step 2.
2. User a referback in the DSN parameter.

7 GDG Processing

Perform the following tasks:

1. Allocate a GDG base for uid.BKUPS.DATA with 5 entries.
 - 1.1. Use the IDCAMS utility.
2. Allocate a model DSCB for the above GDG Base with the attributes:

LRECL: 100
BLKSIZE:8000
RECFM:FB
3. Using in-stream data, copy data into uid.BKUPS.DATA.
 - 3.1. Use the model DSCB in the DD statement of the GDG dataset.
 - 3.2. Create 3 generations of data in one job. Use the same data for each.
4. Delete the model DSCB.
5. Delete the GDG base.

8 JOB LIB and STEPLIB

There are no machine exercises for this chapter.

9 Output Command

1. Use the Output command to code a job to print dataset _____ with 2 copies.
2. Use the Output command to code a job to print dataset _____ on printer _____.
3. Use the OUTPUT statement combined with a JES3 FORMAT statement to print dataset _____ with 2 copies on printer _____.
4. Code a job to print dataset _____ that will allow part of part of the output file to be printed while a job is still executing.
5. Code a job to print dataset _____ that will be paced on a HELD queue.
6. Code a job that reads the following data and submits it to the internal reader.

```
//????? JOB  
//      EXEC PGM=IEFBR14
```

10 Advanced Catalog Procedures

1. Code the following JCL comments and store it into a PROCLIB library:

```
/******  
/*      SYSED ADVANCED JCL CLASS  
/******
```

2. Code a catalog procedure that performs the following:
 - 2.1. Include the comments from step 1 at the top of the procedure.
 - 2.2. Delete the dataset ??????.PROJECT.BKUP.
 - 2.3. Use IDCAMS to perform the delete.
 - 2.4. Use a symbolic variable for the high level qualifier in the dataset name.
3. Copy ??????.PROJECT.DATA into the new dataset ??????.PROJECT.BKUP.
 - 3.1. Use a symbolic variable for the high level qualifier in the dataset name, and the primary space value.
 - 3.2. Sort ???????.PROJECT.DATA into a temporary dataset.
 - 3.3. Use the same primary space as the previous step.
 - 3.4. Sort the data on the first five characters in ascending order.
 - 3.5. If the previous step was successful, print the sorted temporary dataset.
 - 3.6. Do not specify the dataset name; use a referback.
4. Run the catalog procedure.
 - 4.1. Use the SET command to initialize the dataset high level qualifier and primary space.
5. Run the catalog procedure.
 - 5.1. Use the SET command to initialize the dataset high level qualifier and primary space.
 - 5.2. In addition, use a DD override to change the name of the dataset ???????.PROJECT.BKUP used in step 3. and 3.1.

11 VSAM and JCL

1. Create a new VSAM dataset using IDCAMS with the following attributes:
Type: KSDS
Record Length: 100
Key Position: First byte
Key Length: 5

2. Create a new VSAM dataset using ALLOCATE with the following attributes:
Type: KSDS
Record Length: 100
Key Position: First byte
Key Length: 5

3. Create a new VSAM dataset using IDCAMS with the following attributes:
Type: ESDS
Record Length: 100

4. Create a new VSAM dataset using ALLOCATE with the following attributes:
Type: ESDS
Record Length: 100