

COMMON IBM OS/VS SYSTEM ERROR MESSAGES AND ABEND CODES

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1. INTRODUCTION

Interpretation of IBM operating system error codes and messages can be tedious and frustrating. Many times the appropriate manuals are not readily available for the user's access. If the manuals are available, the error description and corrective procedure are often impossible to interpret. A list of the errors most commonly encountered at the CIS Technical Support Department with a brief understandable description of their meaning and a suggested procedure for correcting the error is given below.

2. IDENTIFYING THE ERROR CODE

Identifying the error code is the first step in the process. The first page or pages of the printed output generated by a job is the JES3 job log or JESMSG dataset. This is a chronological listing that specifies JES3 and system operator messages issued during processing of your job. If your job abended (ABnormally ENDED), a message near the end of JESMSG will

appear, resembling:

```
hh.mm.ss SYS2 R=IEF450I jobname procname stepname-ABEND Snnn Ummmm
```

-

```
TIME=hh.mm.ss
```

The characters "IEF450I" are a message identifier code which can be looked up in the "IBM OS/VS Message Library: VS2 System Messages" manual for a description of the message. The actual jobname, procedure name, and stepname for your job will appear in the indicated locations in the message. The "Snnn" and "Ummmm" identify the more helpful parts of the message. The "Snnn" is a code denoting a SYSTEM abend. These codes can be found in the "IBM OS/VS Message Library: VS2 System Codes" manual. The "Ummmm" is a code denoting a USER abend. These codes will vary from one user's program to another, therefore these will not be discussed.

Following the JES3 joblog will be a print file referred to as JESJCL. This is a list that specifies JCL and any additional job control statements from included procedures.

The next section of output is referred to as the SYSMSG dataset. Within this file all system messages will be printed which will include a more descriptive message associated with the error message appearing in JESMSG. Quite commonly, one error code has several meanings, thereby making the extra information in this section very useful in identifying the problem. For example:

```
IEC150I 913-38,IFG0194C,jobname,procname,ddname,35D,UGS004,dsname  
IEF472I jobname procname stepname - COMPLETION CODE - SYSTEM=913  
USER=0000
```

The characters "IEC150I" are another message identifier code, which may be looked up in the system messages manual. To the right of this code is the system abend code. In this example it is "913". The "-38" is an additional code number occasionally used to distinguish between different errors under the same system abend code.

The following are the most commonly found system abend codes. If assistance is needed with the less common system codes, the Technical Support staff is available.

2.1 COMMONLY OCCURRING ABEND CODES

2.1.1 ABEND CODE 013

1. ERROR ID: IEC141I

2. DESCRIPTION: The system could not OPEN one of your datasets properly, generally because of an incorrect DCB parameter (BLKSIZE), or it could not find the specified member of a partitioned dataset.

3. CORRECTIVE PROCEDURE: Check the BLKSIZE in the DCB parameter to insure that it matches the BLKSIZE of the dataset. Verify the spelling and existence of the member of the partitioned dataset.

2.1.2 ABEND CODE 0C1

1. ERROR ID: none
2. DESCRIPTION: The computer tried to execute an invalid machine instruction and an operation exception occurred.
3. CORRECTIVE PROCEDURE: Check the overlaying portion of your program. Accidentally overlaying part of your program with data (subscript out of range) or bad addresses will produce this error.

2.1.3 ABEND CODE 0C4

1. ERROR ID: none
2. DESCRIPTION: This is a storage protection violation generally caused by your program trying to STORE data in memory that is not allocated for your use.
3. CORRECTIVE PROCEDURE: Make sure any subscripts used do not exceed the boundary specified. Correct all bad addresses in a store-type statement.

2.1.4 ABEND CODE 0C5

1. ERROR ID: none
2. DESCRIPTION: The computer tried to ADDRESS an area in a non-existent part of memory (beyond the bounds of our installation memory).
3. CORRECTIVE PROCEDURE: Check for improper subscripts and for inconsistent lists for subprograms.

2.1.5 ABEND CODE 0C7

1. ERROR ID: none
2. DESCRIPTION: This is a DATA exception error. The system tried to execute an instruction that works with packed decimal numbers and found the numbers to be incorrectly formatted. This error commonly occurs in PL/I and COBOL programs when working with data that has been incorrectly converted after inputting from cards or some other file or when numeric fields declared to contain packed decimal data are not initialized prior to use.
3. CORRECTIVE PROCEDURE: Either correct the data or the conversion format in your program.

2.1.6 ABEND CODE 106

1. ERROR ID: none
2. DESCRIPTION: A system software or disk problem occurred during the execution of a LINK or LOAD instruction.
3. CORRECTIVE PROCEDURE: Insure that the load request in the problem was specified correctly and was not incorrectly modified, then resubmit the job.

2.1.7 ABEND CODE 213

1. ERROR ID: IEC143I
2. DESCRIPTION: The system tried to open a DASD data set and encountered difficulties. This ABEND customarily occurs when the dataset name specified in the DSNNAME parameter does not exist.
3. CORRECTIVE PROCEDURE: If the dataset is catalogued, make sure the spelling is correct. If the dataset is not catalogued, insure that the proper volume was specified on the VOL=SER parameter

2.1.8 ABEND CODE 222

1. ERROR ID: IEF301I
2. DESCRIPTION: The operator cancelled the job.
3. CORRECTIVE PROCEDURE: If no message is given in JESMSG, contact the operator for an explanation. Many times the error is caused by improperly accessing a magnetic tape

2.1.9 ABEND CODE 2F3

1. ERROR ID: none
2. DESCRIPTION: The job was executing when a system failure occurred
3. CORRECTIVE PROCEDURE: Resubmit the job if your results are unsatisfactory and contact Technical Support for a job cost reimbursement

2.1.10 ABEND CODE 322

1. ERROR ID: none

2. DESCRIPTION: Execution of a job, job step, or cataloged procedure step took longer than the time specified. If no time was specified in the TIME parameter on your jobcard, the job was given the default value of 30 seconds.

3. CORRECTIVE PROCEDURE: Check for program errors, such as endless loops. Correct any such errors and rerun the job. If no such errors were found, increase the time and rerun the job.

2.1.11 ABEND CODE 613

1. ERROR ID: IEC147I

2. DESCRIPTION: An input/output (I/O) error occurred during execution of an OPEN instruction for a dataset on magnetic tape. The error resulted in either reading or writing incorrectly a tape label or mark, or positioning a tape volume. This error typically occurs in standard label processing for multiple tape files.

3. CORRECTIVE PROCEDURE: Rerun the job, since malfunctioning equipment has likely produced the error

2.1.12 ABEND CODE 722

1. ERROR ID: none

2. DESCRIPTION: The system cancelled your job because an output limit was exceeded for lines being printed or cards being punched.

3. CORRECTIVE PROCEDURE: Assuming that the program is correct, increase the appropriate specification by use of a MAIN card. If lines were exceeded (default=5000), the LINES parameter (in thousands) should be increased accordingly. If cards were exceeded (default=500), the CARDS parameter (in hundreds) should be increased.

2.1.13 ABEND CODE 804

1. ERROR ID: none

2. DESCRIPTION: Your job requested more virtual storage (memory) than the amount that was available.

3. CORRECTIVE PROCEDURE: Increase the REGION parameter on the abending step's EXEC card. If no region parameter was specified, the default value for the procedure being executed was assumed.

2.1.14 ABEND CODE 806

1. ERROR ID: none
2. DESCRIPTION: This error occurred during execution of a LINK or LOAD instruction. The system was unable to locate a load module.
3. CORRECTIVE PROCEDURES: Make sure the spelling of the load module name or program name is correct or that the appropriate STEPLIB or JOBLIB DD card defining which library the load module resides in is included in you JCL stream.

2.1.15 ABEND CODE 80A

1. DESCRIPTION: This error is complimentary to system abend code 804, discussed above.
2. CORRECTIVE PROCEDURES: The same procedures should be exercised for this error.

2.1.16 ABEND CODE 813

1. ERROR ID: IEC149I
2. DESCRIPTION: During execution of an OPEN instruction for a dataset on magnetic tape, the dataset name on the header label of the tape did not match that specified on the DD card.
3. CORRECTIVE PROCEDURE: Insure that the DD statement specifies the correct DSNNAME, volume serial number, and label for the tape being accessed.

2.1.17 ABEND CODE 913

1. ERROR ID: IEC150I
2. DESCRIPTION: An OPEN instruction was issued for a RACF-protected dataset on a DASD volume which your userid was not authorized to access. RACF only allows you to access datasets with a high level qualifier the same as your userid or which you have been explicitly given access permission to by the owner of the dataset.
3. CORRECTIVE PROCEDURE: Make sure you have the needed access authority to the dataset. Attention should be given to the publication "RACF, A Component of the IBM Operating System of The University of Georgia." This is a brief general information manual published specifically for IBM users at the University. It may be obtained at the Technical Support Department.

2.1.18 ABEND CODE A13

1. ERROR ID: IEC151I

2. DESCRIPTION: The system tried to OPEN a non-existent dataset on magnetic tape. The system encountered the end-of-volume tape mark when forward spacing to the file you specified in the LABEL parameter on the DD card.

3. CORRECTIVE PROCEDURE: Check the file sequence number and volume serial number from the previous job that created the dataset.

2.1.19 ABEND CODE B37

1. ERROR ID: IEC030I

2. DESCRIPTION: This error results if either one of two situations occurs. Firstly, if the DASD volume to which the system has assigned one of the program's output datasets does not have enough available space to allow the necessary secondary allocations to be made. Secondly, this ABEND can occur if the output dataset used all 16 extents of secondary allocations but still required more space.

3. CORRECTIVE PROCEDURE: Estimate the space required for the output dataset before rerunning your program. If possible, decrease the amount of space requested or if more space is obviously needed increase the primary and/or secondary allocations.

2.1.20 ABEND CODE D37

1. ERROR ID: IEC031I

2. DESCRIPTION: An output dataset used all the primary space and no secondary space was requested.

3. CORRECTIVE PROCEDURE: Increase the primary allocation or add a secondary allocation to the space parameter for that output dataset.

2.1.21 ABEND CODE E37

1. ERROR ID: IEC032I

2. DESCRIPTION: If creating a dataset on tape, all space available on the volume specified was used and the system attempted to write another record. If creating a partitioned dataset on direct access, 16 extents of secondary space were used when the program attempted to write another record.

3. CORRECTIVE PROCEDURE: Specify at least one more tape volume or specify more primary space if creating a partitioned dataset.