

z/OS: Submitting z/OS (OS/390) Batch Jobs to CNS

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This document contains information on how to run z/OS (OS/390) batch jobs at CNS. It includes batch job submission, how to cancel jobs, and job output. This document is intended to supplement IBM and other vendor-supplied manuals that describe JCL and z/OS (OS/390) in detail.

Related search topics include JES2, security, charges, priority, systems, services, output, forms, and errors.

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Table of Contents

z/OS Batch Jobs	1
z/OS (OS/390) Batch Jobs	1
Batch Job Submission	1
Batch Job Processing	1
How to Check Job Status	2
Job Classes	2
Hints for Improving Batch Job Turnaround Time	6
Job Output	9
Job Output	9
Printed Output at SSRB	9
CD-ROM Output	9
Where to Pick Up Your Output	9
Output for Cancelled Jobs	13
Common Error Messages	14
Common ABEND Codes	15
Class Q and U Problems	16
Finding Your SSRB Output	16
How to Cancel Jobs	19
How to Cancel Jobs	19
Batch Cancellation	19
Interactive Cancellation	19
A. Recommended References	21
Recommended References	21
IBM Publications	21
CNS Publications	21
Other Publications	21

List of Tables

1. Job Classes and Priorities	3
2. Entry Priorities of Class A Jobs	5
3. Print Priorities for Class A Jobs	6
4. Identifying JCL Statements in Job Output	12

z/OS (OS/390) Batch Jobs

A *job* is a set of data and the instructions that tell the system what you want it to do with that data. You may perform a task interactively by submitting the instructions one at a time. A *batch job* is submitted to the system in its entirety, including instructions and data.

CNS's IBM mainframe uses IBM operating systems. The production operating system is z/OS (formerly known as OS/390) with JES2. When you submit a batch job to z/OS, you must use IBM Job Control Language (JCL) and Job Entry Subsystem 2 (JES2) control statements. These control statements tell z/OS or JES2 how to process your job.

There are several types of JCL and JES2 statements, ranging from quite simple to very complex statements. Some of these statements are required in every job (for example, the JOB statement). Others can be added to alter the default flow of processing. The most common of these statements and local modifications of them are described in document D0013, *IBM Job Control Language Conventions at CNS*. [<http://docweb.cns.ufl.edu/docs/d0013/d0013.html>] This chapter describes the default flow of a job through the system, methods of altering the flow, and possible problems relating to the submission of batch jobs.

Batch Job Submission

Batch jobs can be submitted from CNS's TSO time-sharing system. The **SUBMIT** command in TSO sends jobs to z/OS (OS/390). Both of these commands have HELP files in their respective systems.

In addition, many of the other computer systems on campus and throughout the State University System network provide commands to submit batch jobs to CNS. To determine how to submit a job to CNS from other systems on the UF campus, refer to the local documentation for that system, or contact the consultants for that system.

Batch Job Processing

When a job arrives at the z/OS (OS/390) system, the system assigns it a five-digit JES2 job number, which is associated with the job until it leaves the system. Whenever you submit a job to z/OS (OS/390), you should make a note of this number because it uniquely identifies your job, and you will need it in order to inquire about any problems which might occur during the execution of your batch job.

JES2 controls the processing of batch jobs. When a job is submitted, the userid and password are checked.

Jobs are submitted in job classes, which specify the type of job, and help determine the priority in which your job runs. Some job classes are restricted to certain account types and some resources (for example, the use of magnetic tapes) are restricted to certain job classes. JES2 checks the JCL for invalid combinations.

If your JCL passes this initial scan, JES2 places the job in a queue of jobs awaiting execution. The job's position in the queue depends upon several factors:

- job class

- the job's size
- the amount of time the job is in the system

While some jobs are in the queue awaiting execution, their priority is periodically incremented. We call this "aging." JES2 selects for execution the job with the highest priority that can be run with available resources.

When the job finishes executing, it is placed into a queue of jobs waiting to be printed. This queue is divided into local or remote according to the destinations of the jobs in it. Priorities within this queue are determined by the amount of output for the job. Larger jobs have lower priorities and, therefore, longer waits. When the job reaches the top of the queue for its destination, the output is printed.

In addition to the output generated by the job itself, JES2 prints header and trailer pages to identify the job.

When all output for the job is completed, it is removed from the system (purged). Hardcopy output that is produced at the SSRB is filed for three days and is then recycled. Any job that remains in the system for ten days or longer will be automatically purged by the system. See the "Job Output" chapter for more information on job filing.

How to Check Job Status

Once a job reaches z/OS (OS/390), you can check on its progress using the IOF command in TSO.

If you are signed on to TSO, use the job name or job number in the IOF command, which can have these forms:

IOF *jobname*

or

IOF * JOBID(*Jnnnnn*)

Job Classes

The CLASS= parameter on the JOB statement alters the priority at which your OS/390 batch jobs will be run and determines the rate at which the job will be charged. CLASS=A is the default job class at CNS. Class A runs at normal priority with regular rates. Note: Rates for all CNS services are listed in the *CNS Charging Algorithm* document (D0001) [<http://docweb.cns.ufl.edu/docs/d0001/d0001.html>].

Class A jobs that request no setups and that require two seconds of CPU time or less are automatically set to priority 14. This is a higher priority than any job can obtain through priority aging. Charges for these jobs will be billed at normal Class A rates. The execution priority schedule does not affect normal output priority. If you want fast, complete turnaround, do not request special-forms output routed to NER.R0; special-forms printing is usually held until overnight, regardless of the priority. (See DOCWEB Document D0077 for more information about special forms output.)

Job Classes

There are no discounts based on job class for consumption of physical resources, such as pages printed.

Priority

Jobs are assigned a priority for execution according to their job class and estimated execution time. The priority of some jobs increases at regular intervals while the job is awaiting execution. This is called *priority aging*. Jobs in the following classes, however, are assigned an absolute priority and do not age: Classes 5, 2, 1, and 0. The output priority for these jobs is equal to the execution priority.

For jobs other than the absolute priority jobs, the print priority is assigned based on the number of lines of output your job generates; the priority of your job decreases as the volume of output increases.

The following table shows the types of priority that are available by job class and the corresponding increase or decrease in the total charges for the job.

Table 1. Job Classes and Priorities

Job Type	Class	Multiplication Factor or Adjustment
NORMAL	CLASS=A	no adjustment (default)
LOW	CLASS=2	.50
PRODUCTION	CLASS=P	.50 (minimum charge of \$8.00/job)
STANDBY	CLASS=1	.25 (minimum charge of \$0.75/job)
VERYSLOW	CLASS=0	.10 (minimum charge of \$25.00/job)
RESEARCH	CLASS=R CLASS=S	Class A rates with no CPU charge (see below) .50 x Class R job charge
RCI	CLASS=G CLASS=H	No charge* -- 10 minute CPU limit No charge*
WEEKEND	CLASS=W	\$500.00 flat rate (see below)
UTILITY	CLASS=U	No charge for CPU, I/O, or job submission
QUICK	CLASS=Q	No charge for I/O, job submission, or lines printed (max. 2 CPU seconds and 500 lines)
URGENT	CLASS=5	3.00

* for RCI participants only

Job Classes and Priorities

Job Classes

LOW	Low priority jobs (Class 2) will be run at the operator's discretion when they will not interfere with the running of other jobs. In most cases, turnaround time will be no longer than overnight, but no minimum or maximum turnaround is guaranteed.
PRODUCTION	These jobs (Class P) can be defined as I/O-bound jobs. They are run in first-in/first-run order. Class P jobs receive a 50% discount and have a minimum charge of \$8.00. No discount is given for the cost of pages printed.
STANDBY	Standby jobs (Class 1) can have a maximum of one tape setup. They will be run at the operator's discretion on nights and weekends when they are not likely to interfere with higher priority jobs. STANDBY jobs can be cancelled without notice in order to prevent degradation of services to users paying for higher priorities.
VERYSLOW	This priority (Class 0) is intended for jobs that require hours of CPU time and modest I/O. VERYSLOW priority jobs are run only during the weekend operating hours at the discretion of the Shift Supervisor. Approval must be received from the Shift Supervisor at least one day before the job is submitted. Class 0 jobs are limited to one tape setup and are billed at 10% of Class A rates, subject to a minimum charge of \$25 per job.
RESEARCH	This job class (Class R) is for CPU-intensive research computing jobs. CPU time is free under Class R, but all other charges apply at the normal Class A rates. Class R is restricted solely to research computing users, that is, for jobs running under userids for all 100..... (except 19xx.....), all 200....., all 400....., and 6032.... account numbers. No tape setups can be run under Class R, so your data and programs must be either disk resident (online) or part of your job stream. There is one Class R initiator. It will run at all times that batch processing is available, at a very low dispatching priority, to use otherwise unused CPU cycles. There is no guaranteed turnaround time.
EVENING RESEARCH	Like Class R, Evening Research (Class S) is for CPU-intensive research computing jobs. Class S is run on weekends, holidays, and after 6:00 P.M. on weekdays. The class R charge is multiplied by .5 to determine the Class S charge. Class S limitations are the same as those for Class R.
RCI	RCI jobs (classes G and H) are reserved for special Research Computing Initiative (RCI) userids, which are provided free to qualifying SUS faculty members to support the enhancement of numerically intensive computing in higher education. Use of computing resources is restricted to the amount awarded under the RCI. No tape setup is permitted under classes G and H. Class G jobs are limited to 10 minutes CPU time.

Job Classes

WEEKEND (W)	To obtain approval for use of Class W, contact Bill Carr, Operations Manager. Class W is for research applications only and is available on weekends and holidays. Userids with jobs run under Class W will be billed a flat \$500.00 for the weekend, regardless of the number of jobs run. No tape setups are allowed.
CNS UTILITIES (U)	Class U is limited to certain CNS utilities such as CHRGLIST and XFER3 (funds transfer).
FAST BATCH (Q)	Class Q is limited to specific educational applications with a maximum of 2 seconds of CPU time. The SAS and SPSSQ processors are charged for CPU usage at normal Class A rates. There is no CPU charge for the ASSIST, PLC, SPITBOL, WATBOL, WATFIV, and WPASCAL processors.
URGENT (5)	These jobs (Class 5) are for fast processing. Because of the quick turnaround time, Class 5 jobs carry a 200% surcharge.

Priority Aging

Both the execution priority and the print priority of all eligible jobs, except those in execution, are incremented by 1 once an hour. For example, if a job enters the print queue with a priority of 6 at 2 p.m., and it is still in the print queue at 3 p.m., its priority is incremented from 6 to 7.

Note

Priority aging will affect only those jobs not in execution that have a priority from 3 through 13. LOW, STANDBY, VERYSLOW, and URGENT jobs have an absolute priority and do not age.

Computation of Execution Priority

The execution priority of a Class A job is based on estimated execution time. As the job awaits execution, its priority ages every hour.

The following priorities are never changed while the job is in the system. LOW (Class 2) priority jobs are assigned a priority of 1, STANDBY (Class 1) and VERYSLOW (Class 0) priority jobs get a priority of 0. Those with URGENT (Class 5) priority get a priority of 14.

The following table shows how the entry priority of normal priority (Class A) jobs is computed.

Entry priorities vary for jobs with special setups that execute in two CPU seconds or less.

Table 2. Entry Priorities of Class A Jobs

CPU Seconds on JOB Statement	Entry Priority
<= 1	12
<= 3	10
<= 6	9

Hints for Improving Batch Job Turnaround Time

CPU Seconds on JOB Statement	Entry Priority
<= 10	8
<= 30	6
<= 100	4
> 100	3

Computation of Print Priority

Priority for printing is based on the actual number of lines of output a job produces, NOT the number of lines estimated. The print priority of LOW, STANDBY, VERYSLOW, or URGENT jobs does not age, but stays at 1, 0, 0, or 14, respectively.

The following table shows how the print priority for normal priority (Class A) jobs is computed.

Table 3. Print Priorities for Class A Jobs

Lines to be Printed	Print Priority
<= 50	12
<= 200	11
<= 500	10
<= 1000	9
<= 2000	8
<= 5000	7
<= 10000	6
<= 30000	5
> 30000	4

Hints for Improving Batch Job Turnaround Time

Job turnaround time is influenced by many factors, such as the amount of CPU time required by a job, the number and type of resources a job needs (tapes, printers, etc.), the class under which a job is run, and the system load or number of jobs in the system at one time. Because of all these variables, there is no "average" turnaround time. Also, turnaround time is typically longer at the beginning of a month, the end of an academic semester, or the end of the fiscal year. The following hints can help you improve turnaround time:

- Submit your batch jobs late in the day, at nights, on weekends, or on holidays, when the demand for resources is lower.
- Invest some time in desk-checking your programs before you submit them. You might be able to identify problems and not have to wait for your output to find that you left out a comma or space in your program.

Hints for Improving Batch Job Turnaround Time

- Use Class Q compilers or Class U utilities whenever possible.
- Analyze your program's needs and accurately estimate your CPU request in your JCL. These parameters directly affect priorities. If you can limit your CPU time to two seconds or less and your job requires no tape setups, the job will execute much sooner.
- If you are going to use a program repeatedly, compile and link-edit it so you do not have to wait for it to be compiled and link-edited each time you run it.

Job Output

For the purposes of this chapter, hardcopy output refers to printed, plotted, or microfiche output. Other types of output (such as tape or disk data sets) are discussed in the relevant IBM and CNS manuals. See the "Recommended References" chapter in the *CNS General Information: CNS Software and Software References document (D0009)* [<http://docweb.cns.ufl.edu/docs/d0009/d0009.html>].

Printed Output at SSRB

Printed output at the SSRB can be

- high-speed line printer
- IBM 3130 laser printer

High-Speed Line Printer Output

Standard output is printed on high-speed line printers in all upper case at 8 lines per inch on the white side of 14-7/8" x 11" computer paper. Output printed on different paper (for example, bond paper or gummed labels) or using different print bands is called *special-forms output*. Special forms are discussed in detail in document D0077, *Special Forms Output* [<http://docweb.cns.ufl.edu/docs/d0077/d0077.html>].

IBM 3130 Page Printer Output

The IBM 3130 Page Printer is an all-points addressable, letter quality printer, capable of printing an entire page at a time (as compared to a line printer). It supports high-quality text and graphics output, and can print both sides of a page to reduce paper usage.

CD-ROM Output

Most jobs that generate printed output can be set up to produce output directly to CD-ROM. Contact the CNS Support Desk for specific information on this service.

Where to Pick Up Your Output

High-speed line printer output, special-forms output and plotted output are picked up from the SSRB lobby. Output is filed in numbered bins according to the last three digits of the JES2 job number. This number is displayed on your screen when the job is submitted through an interactive terminal and accepted by JES2. Microfiche and batch-job output with a header of INSIDE can be picked up at the Tape Librarian's window, 102C SSRB. To pick up output at the Tape Librarian's window after 4:00 p.m. and on weekends and holidays, call the Shift Supervisor at 392-2291.

Printed output from jobs without a **ROUTE** statement is sent back to the site or node from which it was submitted. For jobs using **ROUTE** statements, output is sent to the destination on

Where to Pick Up Your Output

the **ROUTE** statement. If a job has an invalid **ROUTE** statement, it will print at the site from which it was submitted.

Printed output for jobs routed to a remote-batch station should be picked up at that site.

Output routed to CNS's central site (NER.R0) will be filed in the SSRB lobby. Exceptions are jobs that specify a header of **INSIDE** (see the following section). IBM 3130 output is packaged in a "shrink-wrap" bag to keep the pages together.

Output that is too bulky to fit into the bins is placed on the shelves below the bins. Unclaimed printed output is recycled after three days (excluding weekends and holidays).

Printed output has several sections, which are described in the "Description of Printed Output" section below.

Description of Printed Output

Printed output for z/OS (OS/390) batch jobs has the following parts, in this order:

- Header page
- JES2 statistics
- Input JCL and JCL overrides
- System substitution JCL
- For each step:
 - Allocation messages
 - Step execution messages
 - Disposition messages
 - EXCP count
 - Step termination message
- Estimated execution charges
- User output (in **DD** order, not open order)
- Trailer page, including output charges

If multiple copies are requested, all output specified, with the exception of the header and charge pages, will be repeated. The "Multiple Copies" section below described how to request more copies.

Header Page

The header page enables the operators to separate and file output. It contains the job name, the

Where to Pick Up Your Output

name you specified in the "your name" field on the JOB statement, the JES2 job number, the userid, and the date and the time the job was printed. Two header fields appear at the top of the first page of output. The uppermost field on the page is the HEADER1 field; the field below it is the HEADER2 field. The HEADER1 field contains the job name (the name you supplied after the initial // on the **JOB** statement). HEADER2 can vary. When your batch job routes output directly to a printer, the HEADER2 field contains the job number, unless you specify a header of "INSIDE". See "Specifying a Header of INSIDE" for more information. Output routed to CNS's printers from any other node will have NET.JOB in the HEADER2 field. This cannot be changed.

By default, the HEADER2 field of printed output contains a number corresponding to the following format:

Jnnnnn c

In this format,

J	is for z/OS (OS/390) batch job output
nnnnn	is the job number
c	is the output class (normally A for printer output)

This allows output to be filed in the SSRB lobby under the last three digits of the z/OS (OS/390) batch job number.

Specifying a Header of INSIDE

There may be certain output documents that you do not want filed in the SSRB lobby for security reasons, such as grade reports or information requiring a non-disclosure agreement. Changing the HEADER2 option to `INSIDE` will cause these jobs to be filed behind a locked door inside the operations area at SSRB. When you come to pick up your output, you will be asked by the operator for your job number and account number.

You can use the following **JOBPARM** statement to change the header to `INSIDE`. These jobs are filed inside the operations area.

```
/*JOBPARM HEADER=INSIDE
```

System Log and Messages

The system log contains a record of messages generated by the job and printed on the system operator's console. All messages are time stamped, and the heading line contains the date the job began execution. Some of the messages on the log are generated by JES2 and are preceded by the characters `$HASP`. Other messages are directed to the job by the system operator while the job is executing. These messages are preceded by the letter `N`. All other messages are generated by the operating system or the job itself. Note that the system log can be suppressed by specifying the appropriate **JOB** or **JOBPARM** statement parameter. We do not recommend this, however, because the log can contain useful information if the job does not run successfully.

System messages are generated by the operating system Job Scheduler during its processing of

Where to Pick Up Your Output

the job. They normally include a listing of the JCL statements in the job and messages generated during step initiation and termination, including I/O device allocation and de-allocation. JCL errors are noted here, also. Most of these messages have a standard identifier (such as IEF2371) to help you look them up in the IBM system messages manuals.

In the job's JCL listing, the first three columns identify the types of JCL statements. The following table describes how to identify the types of JCL statements in your job listing.

Table 4. Identifying JCL Statements in Job Output

	COLUMNS 1 2 3
Input JCL you have provided	/ /
Cataloged procedure statements	X X
Cataloged procedure statements you override	X /
Cataloged procedure statements that the system considers comments	X X *
Comment statements	* * *
In-stream procedure statements	+ +
In-stream procedure statements you override	+ /
In-stream procedure statements the system considers comments	+ + *

System messages produced can be controlled to some degree by the use of the *MSGLEVEL* parameter on the **JOB** statement. The second subparameter of the *MSGLEVEL* parameter specifies what allocation/termination or recovery messages are to be printed.

The allocation message appears as follows:

```
IEF237I ### ALLOCATED TO ddn
```

In this message, "###" is the device number assigned by the system, generally a disk or tape device. The first number indicates the channel, the second number is the control unit (1, 2, or 3) for disk drives, and the third number indicates the particular unit. Numbers outside this range are for pseudo-devices, a bookkeeping device that will change each time the system is modified.

The "ddn" refers to the **DD** statement defining a data set calling for a device (except for a **DD** statement containing the *SYSOUT* parameter).

Job Output

The output produced by the job follows the system messages. Each printed output data set (specified by a *SYSOUT=A* **DD** statement) is printed separately, rather than all data sets intermixed chronologically. In general, data sets are printed in step order. Within each step they are printed in the order in which the **DD** statements occur.

Occasionally, the output for a job might need to be interrupted by the operator (for example, to

change the paper on the printer). In this case, the output will be printed in several sections. Check to see that you have all of the output you are expecting when you pick up your output.

Charges

Charges related to the execution of a job are printed after the system messages. Charges are broken down as described in the "Userid Accounting" section of the *CNS General Information: CNS Computing Services and Facilities* manual (D0007) [<http://docweb.cns.ufl.edu/docs/d0007/d0007.html>]. Charges for output are listed on the trailer page for the job.

Multiple Copies

Multiple copies of printed output can be requested in two ways. To get multiple copies of the whole job, specify the number of copies in the *COPIES* operand on the **JOB** or **JOBPARM** statement. To get multiple copies of selected data sets only, or to get different quantities of different data sets, omit the multiple copies field on the **JOB** statement. Instead, specify multiple copies on the **DD** statement for each data set for which multiple copies are desired. To get multiple copies on standard forms, the **DD** statement would be modified as follows:

```
//ddname DD SYSOUT=A,COPIES=nn
```

ddname is the same as on the replaced **DD** statement

nn is the number of copies of this data set to be printed for each copy of the job produced. The maximum is 99 per job.

For example, to request two printed copies of a data set on standard forms, the copies operand on the **JOB** and **JOBPARM** statements would be omitted and the **DD** statement would be coded as follows:

```
//ddname DD SYSOUT=A,COPIES=2
```

To get multiple copies of data sets on special-forms paper, see document D0077, Special Forms Output.

Note

If you specify copies on the **JOB** or **JOBPARM** statement (*mm*) and on a **SYSOUT DD** statement (*nn*), you will receive *mm* copies of the whole job, each copy containing *nn* copies of the **SYSOUT** data set. The end result will be *mm* TIMES *nn* copies of the **SYSOUT** data set!

Output for Cancelled Jobs

When a job is deleted from the system by the operator, you, or JES2, printed output is produced; however, it differs somewhat from that described above.

If the job is cancelled after execution has begun, the header and trailer page and the system log, system messages, and charge pages are still printed but the output is not. Charges are computed in the normal manner. An example of a job that might be cancelled during execution

is a job that requests an operator reply; WTORs (Write To Operator for Replies) are not allowed at CNS.

If the job is cancelled before execution or because of a job control statement error, only a listing of the input JES2 control statements and JCL is produced with a header page, but no charge is assessed. Error messages are printed to show the reason for deletion. A description of the possible messages follows.

Common Error Messages

ILLEGAL ROUTE CARD	<p>The ROUTE statement is invalid. The correct format is <code>/*ROUTE PRINT node.location</code></p> <p>Call the CNS Support Desk if you cannot determine the correct location.</p>
ILLEGAL SETUP CARD	<p>The SETUP statement is invalid. Check for the following errors:</p> <ul style="list-style-type: none">• a SETUP statement was included in a quick batch (Class Q) job• More than one SETUP statement was included for the same type of device• an invalid number of units was specified for a tape SETUP statement
INVALID PASSWORD	<p>The wrong password was used or the password was misspelled.</p>
ILLEGAL JOB CARD	<p>The JOB statement is invalid. Check for the following errors:</p> <ul style="list-style-type: none">• the job name contains illegal characters or is more than eight characters long,• the JOB statement has illegal syntax,• a numeric field contains non-numeric characters or is too long,• the "your name" field is longer than 20 characters,• an execution cutoff of 9999 was specified.
EXPECTED CONTINUATION NOT RECEIVED	<p>The preceding statement indicates that a continuation statement is to follow, but the next statement was not a valid statement continuation. Check for the following errors:</p>

Common ABEND Codes

- the continuation statement was omitted or was coded incorrectly,
- the statement is complete, but has a comma following the last parameter.

JOB DELETED BY JES2
OR CANCELLED BY
OPERATOR BEFORE
EXECUTION

If this message follows one of the messages above, or if there is no previous message, the job was cancelled by the system or by an operator. This can be done to a job that has been in the system for ten days or longer or for a job that requests non-existent services or services not allowed for that job's class, priority, or access number.

RESERVED JOB NAME

This message will be generated if the job name field of the **JOB** statement contains a jobname that begins with \$\$\$\$\$. In addition, jobs with names of CICSTEST, CICSVS, or other reserved names will not be executed.

NAC0021 --
INSUFFICIENT FUNDS

Not enough money existed under the userid to cover the largest charge possible for the job. The largest charge is computed from the cutoff values for execution time, lines printed, and copies specified on the **JOB** statement.

Common ABEND Codes

An ABEND is an ABnormal END during program execution. Below are listed some of the more common ABENDs. Descriptions of how to fix these are in IBM manuals.

001	Tape description on the DD statement does not match the tape format.
0C1	Missing DD statement or I/O attempt on an unopened file.
0C4	In FORTRAN, trying to store into someone else's area of main memory or a missing DD statement (quite often a subscript is bad); in COBOL, moving data to an unopened file.
0C5	Subscripting, not only outside the array, but completely outside of the machine.
0C6	Misaligned COMMON in FORTRAN or COBOL STOP RUN without exiting SORT .
0C7	In COBOL, blanks in a numeric field.
163	STAE control block limit exceeded (36).
213	Data set requested on the DD statement was not found.

322	Not enough time allotted on the JOB statement.
413	Ran off the end of the tape.
722	Not enough lines specified on the JOB statement.
804	Not enough main memory. Increase REGION size.
806	Module not found. Possibly typing error in program name.
80A	Enough main memory to get the program loaded but not enough for buffers.
913	Security access has not been allowed.
922	Invalid control block; most likely a DCB or DEB
B37	Ran out of space on a disk data set.

If you receive these codes and need an explanation of how to correct them, contact the CNS Support Desk.

Class Q and U Problems

If you have a Class Q or U problem, your output will probably be very short. The first page of the output will be titled "JES2 JOB LOG" Look at the next page for the following error message:IEFC612I PROCEDURE xxxx WAS NOT FOUND

You have tried to run a program or procedure that is not available under the either Class Q or Class U. Find out which class supports the program or procedure you want to use. If you are sure that the program you are trying to run really is in Class Q or U, then check to make sure that you spelled it correctly. Class Q and Class U support only a limited number of procedures.

The following processors and programs run under CLASS Q and CLASS U respectively:

CLASS Q: ASSIST, PLC, SAS, SPITBOL, SPSSQ, WATFIV,
WPASCAL

CLASS U: CHRGLIST, CARDLIST

Finding Your SSRB Output

We offer the following suggestions to help you locate your output:

- Use a unique job name.
- When you submit your job, write down the job name, JES2 job number, and date and time of submission. If you need to ask an operator to help you locate the output, the operator will need the job name, job number, and time and date of submission.
- Before you submit your job, make sure you have included a valid **ROUTE PRINT**

Finding Your SSRB Output

statement in your JCL.

- Output is filed by the last three digits of the JES2 job number. If your output is not in the properly numbered output bin, check neighboring bins, check the shelves below the proper bin, or check to make sure that the job has completed processing.
- Unclaimed output is recycled after three days (excluding weekends and holidays).

How to Cancel Jobs

Note

To prevent the wrong jobs from being cancelled and to reduce operator distractions, operators have been instructed NOT to cancel jobs for users.

Batch Cancellation

You can submit a batch job that uses the **RELEASE** utility to cancel a previously submitted job that is not yet in execution. The **RELEASE** utility is documented in Utilities: RELEASE (D0070).

The **RELEASE** utility has the following restrictions:

- You cannot cancel a job belonging to someone else. The **RELEASE** utility job must be submitted with the same userid as the job to be cancelled.
- Only jobs awaiting execution can be cancelled. A job in execution or awaiting print cannot be cancelled.
- If several jobs from the same account have the same name, you must use the job number to identify the job instead of using the name.

If these restrictions are not met, the "JOB NOT FOUND" message will be written.

We recommend using `CLASS=5` on a cancellation job because the cancellation job must execute before the job to be cancelled enters execution.

Interactive Cancellation

You can also cancel jobs from an interactive workstation by signing on to TSO.

Cancelling a Job from TSO

If you are signed on to TSO, you can use the **CANCEL** or **PURGE** command to cancel a job. You must be signed on to TSO under the userid used to submit the job. The **CANCEL** command requests that JES2 terminate the scheduling or execution of a job. The output will say that the job was cancelled. The **PURGE** command requests that JES2 purge a job from the execution, print, or fetch queue. No output will be printed. If the job is executing at the time you issue the **PURGE** command, the job will finish executing and then the output will be deleted. If you want a job to be cancelled immediately and its output purged, you must issue both commands. The format for the two commands is as follows:

```
CANCEL JOB(jobname or nnnnn)  
PURGE JOB(jobname or nnnnn)
```

Use either the job name or the job number (*nnnnn*) of the job to be cancelled or purged; do not use them together in the same command.

Appendix A. Recommended References

Recommended References

The IBM manuals listed below are a few of the references about z/OS (OS/390) and JCL that are available to you. Please see the *General Information: CNS Software and Software References* manual (D0009) [<http://docweb.cns.ufl.edu/docs/d0009/d0009.html>] for a detailed listing of recommended IBM manuals.

IBM Publications

- *MVS/ESA JCL User's Guide*
- *MVS/ESA JCL Reference*
- *MVS/ESA System Codes*

CNS Publications

- D0013 *IBM Job Control Language Conventions at CNS* [<http://docweb.cns.ufl.edu/docs/d0013/d0013.html>]
- D0058 *Understanding CNS z/OS (OS/390) Job Classes* [<http://docweb.cns.ufl.edu/docs/d0058/d0058.html>]
- D0077 *Special Forms Output* [<http://docweb.cns.ufl.edu/docs/d0077/d0077.html>]
- D0045 *z/OS (OS/390) Disk Data Sets at CNS* [<http://docweb.cns.ufl.edu/docs/d0045/d0045.html>]
- D0017 *Using Magnetic Tapes at CNS* [<http://docweb.cns.ufl.edu/docs/d0017/d0017.html>]

Other Publications

The latest version of the JCL text by Gary DeWard Brown

