UNIVERSITY OF QUEENSLAND

COMPUTER CENTRE

WEEKLY NEWSLETTER

DATE : WEEK ENDED 10 FEBRUARY 1972
AUTHORIZATION : DIRECTOR OF THE COMPUTER CENTRE

1. OPERATIONS

1.1 PDP-10 SYSTEM

MONDAY	7 FEBRUARY	MAINTENANCE TO MEMORY UNIT, 0945-1330.
WEDNESDAY	9 FEBRUARY	SYSTEM FAILURE, OFFLINE 1410-1420.
THURSDAY	10 FEBRUARY	SYSTEM FAILURE, OFFLINE 1548-1556, 2210-2225.

SCHEDULE FOR FORTHCOMING WEEK: MAINTENANCE 0700-0900
OPERATIONS 0945-2330.

1.2 GE-225 SYSTEM

SCHEDULE FOR FORTHCOMING WEEK: MAINTENANCE 0700-0830
OPERATIONS 0900-2400.

2. ASCII FILE FORMATS

IT IS AN UNFORTUNATE FACT THAT THERE IS NOT COMPATIBILITY BETWEEN THE FORMATS REQUIRED BY VARIOUS PROGRAMS FOR ASCII FILES. THE FOLLOWING NOTE SETS OUT THE VARIOUS FORMATS THAT ARE REQUIRED AND THE BEST WAY OF ACHIEVING THEM. IT IS NECESSARY TO KNOW THAT

DISK FILE STORAGE IS BASED ON A PHYSICAL RECORD OR BLOCK OF 128 WORDS. A FILE WILL BE CREATED AS AN INTEGRAL MULTIPLE OF SUCH BLOCKS AND IT MAY BE THAT PORTION OF THE LAST BLOCK IS UNUSED. EIGHT SUCH BLOCKS MAKE UP THE KILOWORD THAT IS THE BASIS OF ESTIMATION OF FILE STORAGE AND I/O.

(A) SOURCE PROGRAMS AND FORTRAN INPUT DATA FILES FOR SEQUENTIAL ACCESS

EACH LOGICAL RECORD OR CARD IMAGE IS TERMINATED BY THE CHARACTERS CARRIAGE RETURN (15_8) AND LINE FEED (12_8). THE SUBSEQUENT LOGICAL RECORD MAY FOLLOW IMMEDIATELY, WITHOUT ANY INTERVENING NULL CHARACTERS AND WITHOUT REGARD TO THE PHYSICAL BLOCK STRUCTURE; THAT IS A LOGICAL RECORD MAY BE SPLIT BETWEEN TWO PHYSICAL BLOCKS. ANY INSERTED NULL CHARACTERS ARE IGNORED AND WILL BE SQUEEZED OUT ON INPUT. THUS FILES CREATED IN ANY FASHION AND SUBJECT TO THE LIMITATIONS DESCRIBED BELOW MAY BE USED IN THESE CASES. FILES WITHOUT INSERTED NULLS ARE CREATED BY COPY AND EDITOR (I.E. EDIT OR CREATE) AND BY COBOL FOR SEQUENTIAL ACCESS OUTPUT FILES.

(B) RANDOM ACCESS FORTRAN INPUT FILES

EACH LOGICAL RECORD SHOULD BE OF FIXED LENGTH AND IS TERMINATED BY A CARRIAGE RETURN AND LINE FEED. THE LOGICAL RECORD IS PADDED OUT TO A FULL WORD BOUNDARY BY THE INSERTION OF NULL CHARACTERS (EACH WORD CAN HOLD 5 CHARACTERS). LOGICAL RECORDS MAY NOT BE SPLIT OVER A BLOCK BOUNDARY.

FILES FOR THIS MODE OF USE SHOULD BE CREATED BY FORTRAN USING SEQUENTIAL ACCESS PROCESSING WITH A FIXED LENGTH LOGICAL RECORD. THE USE OF EDITOR TO MODIFY A FILE SO CREATED WILL REMOVE SOME OF THE CHARACTERISTICS GIVEN ABOVE AND WILL ALSO TRUNCATE ANY LOGICAL RECORDS THAT HAVE TERMINATING BLANKS.

(C) RANDOM ACCESS COBOL INPUT FILES

EACH LOGICAL RECORD SHOULD BE OF FIXED LENGTH AND IS TERMINATED BY A CARRIAGE RETURN AND LINE FEED. EACH LOGICAL RECORD WILL START A NEW PHYSICAL BLOCK, THE PREVIOUS BLOCK BEING FILLED WITH NULL CHARACTERS. THE MOST EFFECTIVE WAY OF CREATING SUCH A FILE IS WITH COBOL, USING RANDOM ACCESS.

NOTE THAT THIS MODE OF USAGE CAN BE VERY WASTEFUL OF FILE SPACE, UNLESS CONSIDERATION IS GIVEN TO THE SIZE OF A PHYSICAL BLOCK IN PLANNING THE STRUCTURE OF THE LOGICAL RECORD. IN THIS MODE A PHYSICAL BLOCK CAN HOLD 638 CHARACTERS.

3. COPY(COMPRESS)

FURTHER TO THE NOTE IN WN-74 THE FOLLOWING COMMENTS SHOULD AMPLIFY THE USE OF COPY(COMPRESS) FROM BOTH REMOTE TERMINALS AND VIA BATCH.

(A) BATCH TRUNCATES TRAILING BLANKS ON ALL INPUT RECORDS, GIVING SOME DEGREE OF COMPRESSION.

THUS, USE OF COPY WITHIN BATCH WILL CREATE THE MINIMUM SIZED FILE WITHOUT DELETING SEQUENCE NUMBERS, (I.E. .COPY TO=FILEA).

(B) THE COMPRESS OPTION IS INTENDED TO REPLACE SEQUENCE NUMBERS IN COLUMNS 72-80 WITH BLANKS AND THEN SUPPRESS TRAILING BLANKS. UNFORTUNATELY, IF THE RECORD BEING PROCESSED BY COPY CONTAINS BETWEEN 71 AND 73 CHARACTERS IT IS IMPROPERLY HANDLED AND WILL BE MERGED WITH SUCCEEDING RECORDS. THIS SITUATION OCCURS FROM EITHER BATCH OR A REMOTE CONSOLE, THOUGH IT IS AGGRAVATED IN BATCH BY THE AUTOMATIC TRUNCATION ON INPUT, WHICH COULD CREATE SUCH A RECORD FROM A CARD WHICH LACKED A FULL SEQUENCE NUMBER.

THIS ERROR IS ACTUALLY AN ERROR IN THE UTILITY PROGRAM WHICH IS INVOKED BY COPY. THE CAUSE OF THIS ERROR HAS BEEN ASCERTAINED AND WILL BE IMPLEMENTED IN DUE COURSE. IN THE MEAN TIME EXCERCISE CARE IN USING THE COMPRESS OPTION FROM EITHER BATCH OR A REMOTE CONSOLE AND ENSURE THAT ALL RECORDS COPIED HAVE LESS THAN 71 CHARACTERS OR HAVE PUNCHINGS IN COLUMNS 79 OR 80.

3. EXCESSIVELY LONG COMMANDS

USERS SHOULD NOTE THAT UNDULY LONG COMMANDS ISSUED FROM A REMOTE TERMINAL CAN CAUSE PROBLEMS. THE PROBLEM IS CAUSED BY THE FACT THAT THE OPERATING SYSTEM HAS ONLY A FINITE SIZED BUFFER TO HOLD THE COMMAND BEING DECODED AND ANY CHARACTERS THAT WILL NOT FILL ARE DISCARDED. THUS, WHILE IT IS QUITE ACCEPTABLE TO HAVE COMMENTS (PRECEDED BY A SEMICOLON) GOING UP TO COLUMN 80, COMMANDS TO BE PERFORMED ARE TRUNCATED AT COLUMN 73.