

1. One way to prevent the program from writing past the end of the table is to store the head of the table's address in a register, and store the end of the table's address in another register. Then every time you read in a line of input you can check if the program has reached the end of the table before storing the data. You would check this by using CR. If the condition code is set to 0, then you have reached the end of the table's storage and need to stop storing data.

Example code:

```

...
                LA    2, TABLE          LOAD HEAD ADDRESS OF TABLE
                LA    3, TEND            LOAD END ADDRESS OF TABLE
                XREAD BUFFER, 80         PRIMING READ
                B     TCHECK             CHECK TO SEE IF AT END OF TABLE
RDLOOP          DS    0H
...
                XREAD BUFFER, 80         STORE DATA HERE
                XREAD BUFFER, 80         CONTINUE READING
TCHECK          CR    2, 3              CHECK TO SEE IF AT END OF TABLE
                BNZ   RDLOOP             IF NOT, CONTINUE STORING DATA
...

```

2. 340 bytes divided by 10 rows = 34 bytes per row. Since the first column of each row is 10 bytes of character data,  $34 - 10 = 24$  bytes remaining in each row. The remaining columns of each row is all fullwords, so  $24 / 4$  bytes = 6 fullwords in each row. That means each row is comprised of 10 bytes of character data and followed by 6 fullwords.

My DSECT:

```

$TBLROW        DSECT
$TCHAR         DS    CL10             TABLE, 10 CHARACTER BYTES
$TFUL1         DS    F                TABLE, FULLWORD
$TFUL2         DS    F                TABLE, FULLWORD
$TFUL3         DS    F                TABLE, FULLWORD
$TFUL4         DS    F                TABLE, FULLWORD
$TFUL5         DS    F                TABLE, FULLWORD
$TFUL6         DS    F                TABLE, FULLWORD

```