INTRODUCTION

A database is a collection of interrelated data stored electronically. Modern data processing experts predict that data base management systems will be the ultimate system of the 1980s.

Data processing is one of many attractive features of these new data base management systems. A query system makes it possible that one can add, delete, update, and/or generate reports of data from the data base.

Some systems are flexible and work with a wide variety of data. The more sophisticated the query is, the more complicated the data base may be.

Data of any size and no matter how large a data base may be, the data base organization will be significant.

In a hospital, problems I believe that the effectiveness of the hospital management query system will be more efficient, more economical, and necessary for the hospital system to compete with other hospitals.

A base for this project was developed by using the MDS Data Base System as a data base management system. MDCE is a product of Network Systems Corp. of Midland, Texas. The MDCE Data Base Inc., Lafayette, Indiana.
Demonstration of Using LIST Command

A demonstration of using LIST command with FIND, Issue the PATH clause.

query:

LIST DNAME, PNAME, POMR THRU SI, HAS, WITH

Explanations: This query will generate the report of each doctor, list the doctor and patient names and medical record number.

to PATH clause is: LIST

Terms in FIND clause are: DNAME, PNAME, POMR
PATH clause are: THRU SI, HAS, WITH

<table>
<thead>
<tr>
<th>Dname</th>
<th>Pname</th>
<th>Pomr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARLES T. SMITH</td>
<td>KENNETH BROWN</td>
<td>35.0</td>
</tr>
<tr>
<td>FRANK MARTIN</td>
<td>F. T. BOYD</td>
<td>21.5</td>
</tr>
<tr>
<td>FRANK MARTIN</td>
<td>JAMES SPOCK</td>
<td>21.3</td>
</tr>
<tr>
<td>VANCOF J. MALONEY</td>
<td>ANN HOOD</td>
<td>44.7</td>
</tr>
<tr>
<td>VANCOF J. MALONEY</td>
<td>JOHN WHITE</td>
<td>44.1</td>
</tr>
<tr>
<td>VANCOF J. MALONEY</td>
<td>MARY JONES</td>
<td>44.25</td>
</tr>
</tbody>
</table>
2. Demonstration of using LIST command along with a SET utility provided to set the desired report title. SET is the utility to set the environmental parameters to desired value. The syntax for using SET is:

SET parameter = value

Query:

SET TL = "Hospital Data Base System"

LIST DNAME, PNAME, POMR THRU 51, HAS, WITH

Explanation: This query will generate report with the previous example except it includes the report title.

Result:

<table>
<thead>
<tr>
<th>Dname</th>
<th>Pname</th>
<th>Pomr</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHARLES T. SMITH</td>
<td>KENNETH BROWN</td>
<td>35.0</td>
</tr>
<tr>
<td>FRANK MARTIN</td>
<td>E. T. BOYD</td>
<td>21.5</td>
</tr>
<tr>
<td>FRANK MARTIN</td>
<td>JAMES SPOCK</td>
<td>21.3</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>ANN HOOD</td>
<td>44.7</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>JOHN WHITE</td>
<td>44.1</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>MARY JONES</td>
<td>44.25</td>
</tr>
</tbody>
</table>
3. Demonstration of using LIST command with FIND clause, CONDITIONAL clause, and PATH clause by using downstream generation PATH clause "C > 1."

```
LIST FNAME, SSN, ADMC FOR ADMC = "1" THRU 32, 'ADMIT
```

Explanation: This query will generate report for all
of the emergency patient admission code
- It list the names social security
numbers and admission codes.

```
\text{REPORT FNAME SSN ADMC}
```

```
F. T. BOYD 081232888 1
NAME SPOCK 090811999 1
```
4. Demonstration of LIST command with FIND clause, CONDITIONAL clause, and PATH clause with the arithmetic operator >=.

Query:

LIST PHONE, AGE, DADM FOR AGE GE "70" THRU 92, WITH

Explanation: This query will generate a report of a patient whose age is greater than 70 years old and had been admitted on July 4th 1992.

- command clause is: LIST.
- form a FIND clause are: PHONE, AGE, DADM
- CONDITIONAL clause is: FOR AGE GE "70"
- PATH clauses are: THRU 92, WITH
6. Demonstration of using the LIST command for
navigation through the database allows access to all paths
in any direction. This query will retrieve all records in
the database.

Query:

```
LIST ADMNO, PNAME, DNAME, POMR, AND THRU SJ, ADMIT.
WHAS, WITH, PROVIDE
```

Explanation: This query will generate a report of
admission numbers, patient names, doctor
names, and patient's medical records.

COMMAND clause is: LIST
Terms in FIND clause are: ADMNO, PNAME, POMR, AND
PATH clause is: SJ, ADMIT, WHAS, WITH, PROVIDE

<table>
<thead>
<tr>
<th>ADM-NO</th>
<th>PATIENT NAME</th>
<th>DOCTOR NAME</th>
<th>POMR</th>
<th>Ann</th>
</tr>
</thead>
<tbody>
<tr>
<td>1111</td>
<td>JAMES SPOCK</td>
<td>FRANK MARTIN</td>
<td>21.3</td>
<td>12349</td>
</tr>
<tr>
<td>2121</td>
<td>T. T. ROYD</td>
<td>FRANK MARTIN</td>
<td>21.5</td>
<td>22348</td>
</tr>
<tr>
<td>3131</td>
<td>JOHN WHITE</td>
<td>VANCE J. MALONEY</td>
<td>44.1</td>
<td>33447</td>
</tr>
<tr>
<td>4141</td>
<td>KENNETH BROWN</td>
<td>CHARLES T. SMITH</td>
<td>35.0</td>
<td>44536</td>
</tr>
<tr>
<td>5252</td>
<td>ANN HOOD</td>
<td>VANCE J. MALONEY</td>
<td>44.7</td>
<td>55345</td>
</tr>
<tr>
<td>6262</td>
<td>MARY JONES</td>
<td>VANCE J. MALONEY</td>
<td>44.25</td>
<td>67234</td>
</tr>
</tbody>
</table>
WRITE PNAME, DNAME, PCOD FOR PCOD = "2" THRU S2, >HAS, PAY
F. T. BOYD
FRANK MARTIN
?
JOHN WHITE
VANCE J. MALONEY
?
MARY JONES
VANCE J. MALONEY
?

->
2. Demonstration of statistical analysis of more than one term in a query.

Query:

STATS PCOD, AMT FOR PCOD = "1" THRU 55

Explanation: The statistical analysis generated from this query is to determine how many patients have not paid on their account (pay code = 1), and do statistical analysis of the unpaid amount.

COMPARE clause is: STATS
Terms in FIND clause are: PCOD, AMT
CONDITIONAL clause is: FOR PCOD = "1"
PATH clause is: 55

Result:

1: Pcod
   Number of observations: 2

2: Amt
   Number of observations: 3
   Maximum: 4950.000000000
   Minimum: 1720.000000000
   Sum: 9920.000000000
   Mean: 3306.666666667
   Variance: 2718296.000000000
   Standard Deviation: 1649.007277113
Demonstration of Change Command

A demonstration of using the Change command to changing only one data item.

Query:

CHANGE ADMC FOR PNAME = "E. T. BOYD" THRU #3, ADMIT

Explanation: This query will change the admission status from emergency patient (admission code = 1) to regular patient (admission code = 2). The changing process demonstrated as:

BEFORE the change, the data is:

<table>
<thead>
<tr>
<th>Admin</th>
<th>Admc</th>
<th>Pname</th>
</tr>
</thead>
<tbody>
<tr>
<td>2171</td>
<td>1</td>
<td>E. T. BOYD</td>
</tr>
</tbody>
</table>

WHILE doing the change:

- CHANGE ADMC FOR PNAME = "E. T. BOYD" THRU #3, ADMIT
  Old Value: 1
  New Value: 2
  1 Changes Made

---
AFTER the change, the data is:

<table>
<thead>
<tr>
<th>Admino</th>
<th>Admc</th>
<th>Fname</th>
</tr>
</thead>
<tbody>
<tr>
<td>2121</td>
<td>2</td>
<td>E. T. BOYN</td>
</tr>
</tbody>
</table>
2. Demonstration of using `CHANGE` command to change all items under specify data item.

Query:

```sql
CHANGE DDCH FOR DNAME = "VANCE J. MALONEY" THRU S1, HAS, WITH
```

Explanation: this query will change the discharge date of some patient's medical records. The changing process is demonstrated step by step as:

<table>
<thead>
<tr>
<th>Dname</th>
<th>Pname</th>
<th>Pnumr</th>
<th>Ddch</th>
</tr>
</thead>
<tbody>
<tr>
<td>VANCE J. MALONEY</td>
<td>ANN HOOD</td>
<td>44.7</td>
<td>SEP.5 1982</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>JOHN WHITE</td>
<td>44.1</td>
<td>SEP.16 1980</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>MARY JONES</td>
<td>44.25</td>
<td>DEC.4 1982</td>
</tr>
</tbody>
</table>

When doing the change:

```sql
-- CHANGE DDCH FOR DNAME = "VANCE J. MALONEY" THRU S1, HAS, WITH
Old Value: SEP.5 1982
New Value: SEP.7 1982
Old Value: SEP.16 1980
New Value: DEC.4 1982
? Changes Made
|-->
```
AFTER the change, result is:

<table>
<thead>
<tr>
<th>Dname</th>
<th>Pname</th>
<th>Pnor</th>
<th>Ddch</th>
</tr>
</thead>
<tbody>
<tr>
<td>VANCE J. MALONEY</td>
<td>ANN HOOD</td>
<td>44.7</td>
<td>SEP. 7 1982</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>JOHN WHITE</td>
<td>44.1</td>
<td>SEP. 16 1980</td>
</tr>
<tr>
<td>VANCE J. MALONEY</td>
<td>MARY JONES</td>
<td>44.25</td>
<td>DEC. 9 1982</td>
</tr>
</tbody>
</table>