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## IBM "MARK SENSE" CARDS IN PRISON CLASSIFICATION AND CRIMINOLOGICAL RESEARCH

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EDITOR.

A new streamlined method of gathering, recording and correlating information on inmates of the Louisiana State Penitentiary at Angola has recently been inaugurated. It saves time, reduces the need for skilled clerical personnel, and makes much more information available than the old, and with greater accuracy and speed.

The new system makes use of IBM "Mark sense" cards which have been adopted by the Division of Research of the Louisiana Department of Institutions for the gathering of data, reporting and research on each of the state's 100,000 yearly admissions to its mental, tuberculosis and general hospitals, guidance centers and correctional institutions.

### THE OLD SYSTEM AND THE NEW

In the past, background data for new admissions to the Louisiana State Penitentiary were obtained during the initial classification interview. This information, which was later forwarded to the central office of the State Department of Institutions, consisted of approximately 35 items of a relatively static nature, such as crime committed, sentence, date of commitment, race, sex and nativity.

Clerical personnel at the prison organized the results of the classification interview and typed the information on standard admission forms. When these forms reached the central office, another staff of clerks translated the various items into numerical codes which were next passed to key-punch operators who punched IBM master cards.

This procedure required three clerical operations and the data passed through numerous hands, making the probability of clerical error very high.

During the classification interview, professional interviewers now record information on a standardized checklist which is then transposed onto "Mark Sense" IBM cards (Figures 1, 2, & 3) by clerks. This is the only point at which clerks are needed

LOUISIANA STATE DEPARTMENT OF INSTITUTIONS

INMATE NUMBER	CRIME COMMITTED		PARISH OF COMMITMENT	AGE AT COMMITMENT	YEARS SENTENCED		PARISH OF COMMITMENT	AGE AT COMMITMENT	YEAR OF BIRTH	YEARS IN LOUISIANA	PLACE OF RESIDENCE	SITE OF COMMITMENT	MST RECENT OCCUPATION	RACE		EDUCATIONAL GRADE ATTAINED	REASON FOR RETURN	DATE		NUMBER OF MONTHS AWAY	
	1955	1956			1955	1956								MAL	WIT			JAN	FEB		
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
8	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

LOUISIANA STATE PENITENTIARY ADMISSION CARD NO. 1

INM : 216 SMS

Figure 1. Louisiana State Penitentiary Admission Card Number 1.

in the new process, and they no longer need to be proficient typists. These cards are sent to the central office where all further work is performed by IBM automatic machines, releasing personnel at both the prison and the Division of Research for other work.

#### MARK SENSING

Mark sensing is a procedure by which a specially printed IBM card is marked with an electrographic pencil to denote certain information. Through the use of the Mark Sensing Reproducer these marks are automatically converted into punched holes in the card corresponding to the relative positions of the pencil marks. The punched hole thus assumes the same numerical value as the mark which was originally made. This procedure permits the collection of record or research data on IBM cards at the source of the data without any additional clerical or key-punch work. Its major utility is in the elimination of typing information on standardized forms. After admission, any additional information received (parole, discharge, etc.) is matched with the original punched card by collation and is punched directly in the original card. After an inmate is admitted and discharged, there is only one master card on file. The three mark sense cards are machine merged into one standard 80 column IBM master card.

#### MARK SENSE CARDS

Both prison and Division of Research personnel collaborated in planning the new reporting system. In addition to the traditional routine information, many new items were suggested, discussed, and added or discarded. The final items for the

TABLE I

Item	Punch Column	Mark Sense Column
1. Inmate number.....	prepunched	
2. Crime committed.....	1-9*	1-3
3. Date of commitment.....	10-15	4-5
4. Years sentenced.....	16-21	6-7
5. Parish of commitment.....	22-27*	8-9
6. Age at commitment.....	28-30	10
7. Year of birth.....	31-36	11-12
8. Years in Louisiana.....	37-39	13
9. Place of residence.....	40-45*	14-15
10. Size of community of residence (rural-urban).....	46-48	16
11. Occupation.....	49-57	17-19
12. Veteran's status.....	58-60	20
13. Race and marital status.....	61-63	21
14. Educational attainment.....	64-66	22
Returns section		
1. Reason for return.....	67-69	23
2. Date of return.....	70-75	24-25
3. Number of months away.....	76-80	26-27

\*The asterisk indicates items that are marked from printed codes. (Figs. 2 & 3 also.)

LOUISIANA STATE DEPARTMENT OF INSTITUTIONS																		
NO. OF PRIOR DISPENSE L.S.P. WHERE	NO. OF COMMITMENTS L.S.P. WHERE	INMATE NUMBER	AGE AT FIRST ARREST	MARRITAL HISTROY	NUMBER OF DEPENDENTS (EXCLUDING SELF)	ECONOMIC STATUS	REASON FOR CONFINEMENT	EDUCATIONAL GRADE ATTAINED	PSYCHOLOGICAL HISTORY	FATHER	MOTHER	SIBLINGS NUMBER	CORRECT- IONAL OR PENAL TREATMENT	RELIGIOUS AFFILIATION	RACE	GRADE	DUTY ASSIGNMENT	INMATE NO.
0	0	0	3-9	NEVER MARRIED	NONE	PROBATION	NO RECORD	NONE	PT	P	NONE	NONE	NONE	ACTIVE	ACTIVE	ACTIVE	101	
1	1	1	10-14	MARRIED ONCE	1	RELATIVE	1-2	1-2	M	M	1	1	1	IN- ACTIVE	IN- ACTIVE	IN- ACTIVE	102	
2	2	2	15-19	MARRIED	2	RELATIVE	3-4	3-4	M	M	2	2	2	BAPT	BAPT	BAPT	103	
3	3	3	20-24	MARRIED	3	RELATIVE	5-5	5-5	M	M	3	3	3	BAPT	BAPT	BAPT	104	
4	4	4	25-29	MARRIED	4	RELATIVE	7-8	7-8	M	M	4	4	4	BAPT	BAPT	BAPT	105	
5	5	5	30-34	MARRIED	5	RELATIVE	9-10	9-10	M	M	5	5	5	BAPT	BAPT	BAPT	106	
6	6	6	35-39	MARRIED	6	RELATIVE	11-12	11-12	M	M	6	6	6	BAPT	BAPT	BAPT	107	
7	7	7	40-44	MARRIED	7	RELATIVE	13-14	13-14	M	M	7	7	7	BAPT	BAPT	BAPT	108	
8	8	8	45-49	MARRIED	8	RELATIVE	15-16	15-16	M	M	8	8	8	BAPT	BAPT	BAPT	109	
9	9	9	50-54	MARRIED	9	RELATIVE	17-18	17-18	M	M	9	9	9	BAPT	BAPT	BAPT	110	
10	10	10	55-59	MARRIED	10	RELATIVE	19-20	19-20	M	M	10	10	10	BAPT	BAPT	BAPT	111	
11	11	11	60-64	MARRIED	11	RELATIVE	21-22	21-22	M	M	11	11	11	BAPT	BAPT	BAPT	112	
12	12	12	65-69	MARRIED	12	RELATIVE	23-24	23-24	M	M	12	12	12	BAPT	BAPT	BAPT	113	
13	13	13	70-74	MARRIED	13	RELATIVE	25-26	25-26	M	M	13	13	13	BAPT	BAPT	BAPT	114	
14	14	14	75-79	MARRIED	14	RELATIVE	27-28	27-28	M	M	14	14	14	BAPT	BAPT	BAPT	115	
15	15	15	80-84	MARRIED	15	RELATIVE	29-30	29-30	M	M	15	15	15	BAPT	BAPT	BAPT	116	
16	16	16	85-89	MARRIED	16	RELATIVE	31-32	31-32	M	M	16	16	16	BAPT	BAPT	BAPT	117	
17	17	17	90-94	MARRIED	17	RELATIVE	33-34	33-34	M	M	17	17	17	BAPT	BAPT	BAPT	118	
18	18	18	95-99	MARRIED	18	RELATIVE	35-36	35-36	M	M	18	18	18	BAPT	BAPT	BAPT	119	
19	19	19	100-104	MARRIED	19	RELATIVE	37-38	37-38	M	M	19	19	19	BAPT	BAPT	BAPT	120	

Figure 2. Louisiana State Penitentiary Admission Card Number 2.

TABLE II

Item	Punch Column	Mark Sense Column
1. Inmate number.....	prepunched	
2. Number of prior escapes.....	1-3	1
3. Number of previous commitments—LSP.....	4-6	2
4. Number of previous commitments—elsewhere.....	7-9	3
5. Type admission.....	10-12*	4
6. Number of juvenile commitments.....	13-15	5
7. Age at first arrest.....	16-18	6
8. Marital history.....	19-21	7
9. Number of dependents.....	22-24	8
10. Economic status.....	25-27	9
11. Nurture.....	28-30*	10
12. Number of times changed schools.....	31-33	11
13. Father's occupation.....	34-36	12
14. Mother's occupation.....	37-39	13
15. Educational grade attained by father.....	40-42	14
16. Educational grade attained by mother.....	43-45	15
17. Psychobiological history—inmate.....	46-48	16
18. Psychobiological history—father.....	49-51	17
19. Psychobiological history—mother.....	52-54	18
20. Number of siblings.....	55-57	19
21. Siblings—correctional or penal history.....	58-60	20
22. Siblings—mental hospital or treatment history.....	61-63	21
23. Religiosity of inmate.....	64-66	22
24. Religiosity of father.....	67-69	23
25. Religiosity of mother.....	70-72	24
26. Otis Intelligence Quotient.....	73-75	25
27. Literacy—grade achievement.....	76-78	26
28. Duty assignment.....	79-80	27

mark sense system were chosen for their potential usefulness in future research and their practical usefulness in prison administration. Some items were based on surveys of criminological literature; others were based on suggestions from experienced prison administrators. When the final cards were completed, over 60 items had been selected, almost twice as many as previously.

The new procedure has resulted in a drastic reduction in effort and time, for both the prison and the Division of Research. At the same time twice as many variables are now recorded. By reducing its clerical staff, the Research Division has been able to acquire the services of professionally trained research personnel. Conversely, the level of skill required for the prison recording system has been lowered since typing is no longer required. Emphasis has been taken off "data-gathering" and placed on productive analysis. In addition, the Division is now able to function as a service organization for the institutions in the field. The prison benefits by being able to obtain mass inmate information in only a fraction of the time previously required. Reporting is no longer a one-way process. The intensive use of IBM equipment has made possible a rapid "feed-back" of requested information to the reporting institution.



## ADMISSION CARD NO. 1

The first admission card (Figure 1) is filled out and sent to the Division of Research within one month after admission. The items on this card are obtained from court papers and routine interviews. Since inmates are admitted in a numerical sequence, inmate numbers are pre-punched in the cards, interpreted in advance, and stacked in order ready for use. The items appearing on this card are shown in Table I.

Items 5 and 9 above are used for demographic and statistical analyses of inmate distribution. These items also yield the number and residence of out-of-state offenders. Item 10 makes possible a comparison of rural and urban commitment rates. Items 1 through 3 under "Returns" apply only to inmates who violate parole, return from escape, or from observation at mental institutions. The heavy black lines (Punch columns 61-63) indicate a "double-punch" column. Two pencil marks are made in each of these columns. The double punch can be used to advantage when the item may be classified into two or three major headings, each of which is broken down into smaller subheadings.

## ADMISSION CARD NO. 2

This card (Figure 2) is filled out and sent to the Division of Research from one to two months after the inmate is admitted. Much of this information requires documentation from FBI records and files of other correctional institutions. The card gathers information concerning the antecedent environmental conditions which may have contributed to delinquency. A rather comprehensive social and environmental history is compactly recorded on the  $3\frac{1}{2}'' \times 7\frac{3}{8}''$  card. The items are shown in Table II.

Items 26 and 27 are used to gather psychological test information. Test data can be even more useful to the prison staff if test scores of thousands of inmates are systematically collected. In this manner prisoners' achievement and aptitude scores

TABLE III

Item	Punch Column	Mark Sense Column
1. Inmate number.....	1-15	1-5
2. Date of exit.....	16-21	6-7
3. Type of exit.....	22-24*	8
4. Time confined.....	25-27	9
5. Number of times paroled.....	28-30	10
6. Good time lost.....	31-33	11
7. Age on exit.....	34-36	12
8. Place paroled (parish or state if outside La.).....	37-42	13-14
9. Place paroled—size of community.....	43-45	15
10. Number of times before parole and pardon boards.....	46-48	16
11. Disciplinary reports—number.....	49-51	17
12. Disciplinary reports—reason (space for 5 reports).....	52-66	18-22
13. Custody.....	67-69	23
14. Cause of death.....	70-72	24
15. Vocational training received.....	73-75	25
16. Primary job specialty.....	76-80*	26-27



may be evaluated in reference to other inmates. Mark sense reporting is uniquely suitable in the construction of local norms.

#### EXIT CARD

The exit card (Figure 3) is submitted at the time the inmate leaves the prison with the staff expectation that he will not return (i.e., parole, pardon, or final discharge). A brief summary of each inmate's institutional adjustment and training appears on this card. The items are shown in Table III.

The information on this card should prove useful in future follow-up studies. Patterns of institutional adjustment may be predictive of later social adjustment. Occupational follow-ups of inmates who participated in the prison vocational training programs should provide a basis for the guidance and revision of future programs.

From time to time the Division will re-evaluate its reporting program. By statistical analysis and conferences with reporting personnel, unreliable and non-productive items will be discarded in favor of better ones.

In summary, the initiation of mark sense reporting has substantially improved the speed and accuracy of reporting and is providing the necessary data for profitable future research. In addition, the prison administration has at its fingertips much of the information needed for reports, budgets, and construction planning, information which can be obtained without the cumbersome, time-consuming hand-tallying of the past.