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THE FLEXIBLE DISK IN DATA MANAGEMENT

- ☐ Need to statistically analyze or cross tabulate numerous data sets — quickly?
- ☐ Looking for simple, logical access to stored data?
- ☐ Does efficient, logical storage of your data base — with flexibility for growth — interest you?
- ☐ Is real-time data logging a requirement of yours?

If you answer yes to any or all of these data management questions, Hewlett-Packard now has the solution in the HP 9885 Flexible Disk Drive. When used with a Hewlett-Packard Desktop Computer, this flexible disk drive means convenient, reliable, low-cost data storage — with high-speed data transfer between disk and computer.

The high transfer speed, along with random access, allows the desktop computer to request any information stored on the disk (in any order), permitting rapid, complete analysis of the data. A complete, detailed analysis is now possible because a random access storage device gives you the freedom to explore all possibilities and combinations of data. This convenient access and analysis of data will help determine significant relationships, make intelligent interpretations and draw accurate conclusions in a timely manner.

Data Management With the HP 9885

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CRITERIA	DRIVER 1	2	3	4	5	6	.....	1000
Years Driving	10	2	4	1	8	2	.....	21
Accidents (1 yr)	1	2	0	1	0	1	.....	0
Age	28	20	23	17	31	19	.....	40
Sex	F	M	M	F	M	F	.....	F
Drinker	Y	N	Y	Y	N	Y	.....	N
Smoker	N	N	Y	N	Y	N	.....	N
Married	N	Y	N	N	Y	Y	.....	Y
Children	N	Y	N	N	Y	N	.....	Y
Education	17	15	12	11	16	13	.....	12
Vehicle	T	C	-	C	-	C	.....	-
Vehicle Age	1	6	-	10	-	4	.....	-
Rain	Y	N	-	N	-	Y	.....	-
Snow	N	Y	-	N	-	N	.....	-
Fair	N	N	-	Y	-	N	.....	-
Bright sun	N	N	-	Y	-	N	.....	-
Day	N	Y	-	Y	-	N	.....	-
Night	Y	N	-	N	-	Y	.....	-
Speeding	N	Y	-	N	-	N	.....	-
Mountains	N	Y	-	N	-	N	.....	-
Flat	Y	N	-	Y	-	Y	.....	-

Figure 1. Example data for hypothetical HP 9885 Flexible Disk application

FLEXIBLE DISK APPLICATION

The easiest means of demonstrating the flexible disk drive application in data management is with a hypothetical problem. In this case, a cross tabulation analysis to determine the probability of an automobile accident was selected. This problem necessitates a quick, practical means of determining what combinations of a large sampled criteria truly produce the most accidents. The parameters used in this hypothetical problem are: 1) 1000 people in the test group, 2) 20 criteria for each person (see Figure 1).

Cross tabulation of this extensive amount of information is only feasible with random access to the data. Using random access, you can quickly conduct a series of analyses with more detailed results available for meaningful interpretation.

In this example, the following information could be some of the results of the different analyses performed (hypothetical):

- Most prone to accident profile
  Age: 19, Single
  Sex: Male
- Four most influential causes (in order) of accidents
  1. Speed - 42%
  2. Drinking - 21%
  3. Night - 11%
  4. Snow - 8%
- Profiles of two sample groups
  1. IF - age = 20 to 25
     - sex = male
     - years driving = 2 to 7
     THEN ACCIDENT PROBABILITY this year = 5%
  2. IF - age = 20 to 25
     - sex = female
     - years driving = 2 to 7
     THEN ACCIDENT PROBABILITY this year = 3%

When you use the HP 9885 Flexible Disk Drive/Hewlett-Packard desktop computer combination, it becomes a relatively quick (just minutes) and simple task to determine most relationships on a given data set.

FEATURES AND BENEFITS

Mass storage on the HP 9885 means random access to approximately 500,000 bytes of data per removable diskette — the diskettes are a low-cost, high-reliability storage medium. The flexible disk drive comes in two versions, the 9885M (Master) with a built-in controller to which up to three 9885S's (Slaves) can connect. This 9885S expandability provides a means of ensuring easy "backup" of critical information or providing random access to nearly 2 million bytes of data.

Also, the flexible disk drive incorporates a very useful "self-test" feature, which quickly checks the disk drive for electrical and mechanical operation.

Special features and benefits of the flexible disk drive include:

- Random Access
  - Store or retrieve any file(s) on the diskette in less than 1/3 second.
- Smart Directory
  - Files referenced by name; user designates the file name (i.e., get "Jones").
  - Quick access to catalog (index) of stored files (available anytime). Also, the disk directory tells the drive when and where a file exists — the drive does not waste time searching for files not on that diskette.
  - Catalog update occurs "automatically" as system operations are executed.
- Dynamic Size Allocations
  - Provides the most efficient packing of data on the diskette (saves valuable media storage space).
  - A deleted file will be automatically replaced by another file equal to or smaller in size than the old.
  - User may repack files so that all unused or available space is collected together on the diskette (quickly and easily).
- Disk Unit Uses Desktop Computer's Buffered I/O
  - Data transfer between the flexible disk drive and the desktop computer occurs at 23K bytes/second.
  - Desktop computer can perform collection and storage of data simultaneously — as one buffer in the desktop computer fills with data, a second buffer dumps its data to the flexible disk drive. This allows an almost continuous, uninterrupted capture and storage of data until the diskette is full. The desktop computer requires approximately 4 milliseconds to internally switch between buffers. The 9885 utilizes the direct memory access (DMA) channel for data transfer between the disk and the desktop computer.

Lower cost, higher speed, larger capacity, greater reliability and ease of operation in data management make the HP 9885 a valuable addition to the desktop computer system.

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