or by interrupt commands coded in the Executive.

When an interrupt is honored, the live registers (e.g., the accumulator) associated with the interrupted program are automatically saved in Executive memory at locations unique to the priority level at which the interrupt occurred. Thus, even if an interrupt-handling routine is itself interrupted, there is no loss of information. Since these registers are stored in memory, they can be altered by the Executive routines if desired. At the conclusion of processing an interrupt, the Executive routine (which was started by the interrupt) executes a "debreak" instruction, signaling the interrupt hardware that lower-priority interrupts may be honored.

The assignment of priorities carries with it no connotation of *importance* but rather the connotation of *immediacy,* as determined by the characteristics of the device producing the interrupt. For example, if the Data Channel has been looking for a particular word on the rotating drum and suddenly finds it, its signal to the central processor for attention must be handled immediately lest a complete rotation of the drum be required before the information can actually be transferred. On the other hand, there is no immediacy in the start of the search for a word and, hence, initiation of such a search can take place on a low-priority interrupt level. (Although the priority organization may not allow an interrupt to be honored when it is received, the request will be saved and honored when it becomes the highest-priority interrupt which is requesting service.) Based on this concept of immediacy, the activities assigned to the various priority levels are listed in descending order of priority in Table I. It should be mentioned here that all Executive routines are