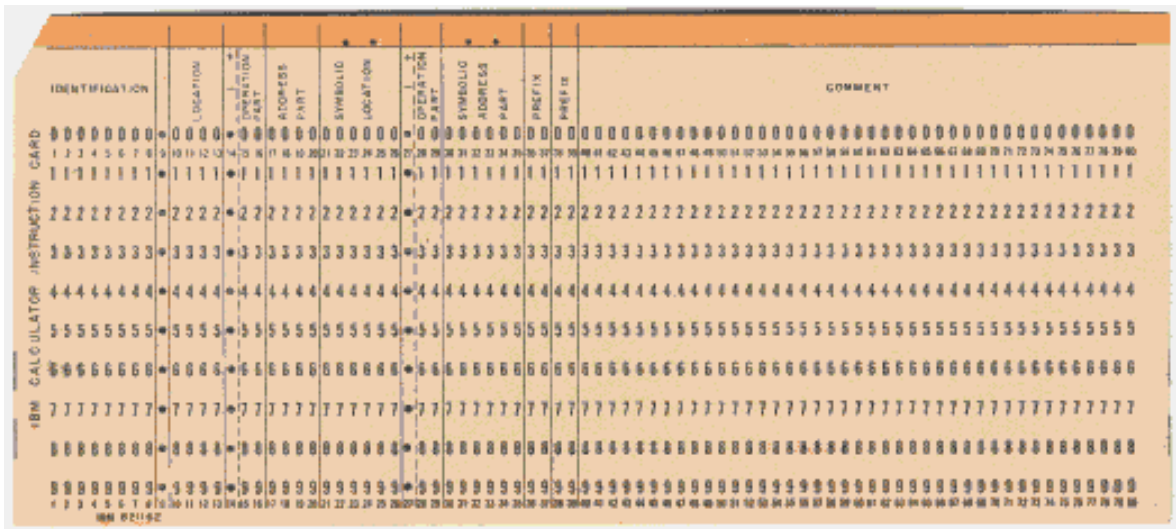


# A Collection of Punched Cards for Computer Programs

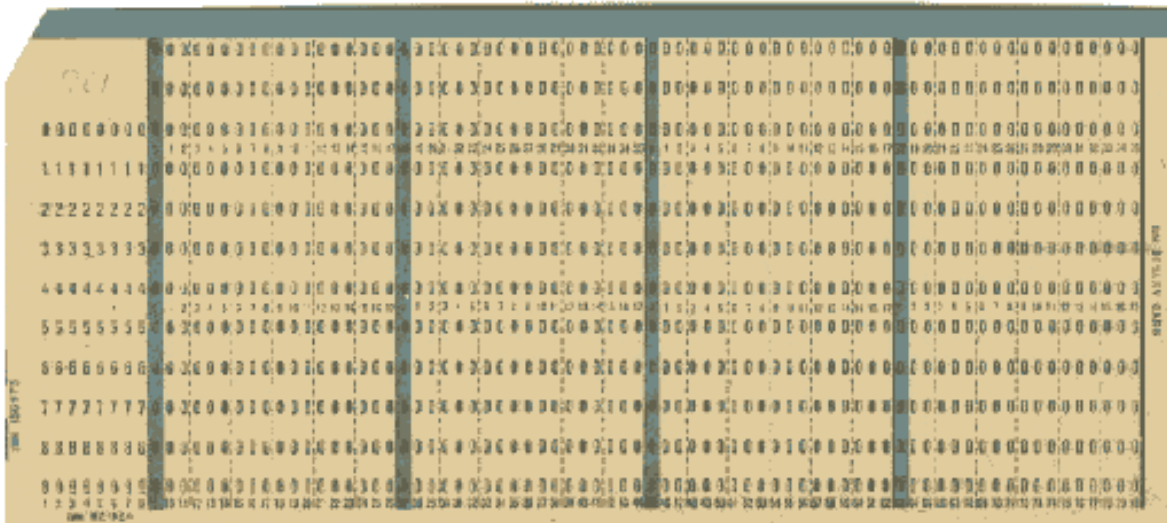
By Douglas W. Jones

## IBM Calculator Instruction Card



This card is apparently designed for the IBM 701 computer; this was the very first general purpose digital computer sold by IBM. It used vacuum tube technology, including Williams tubes for main memory (a type of DRAM). This card has fields for both the symbolic and executable forms of the instruction; apparently, the assembler was designed to punch the object code directly onto the cards from which it read the source code!

## IBM Binary Card

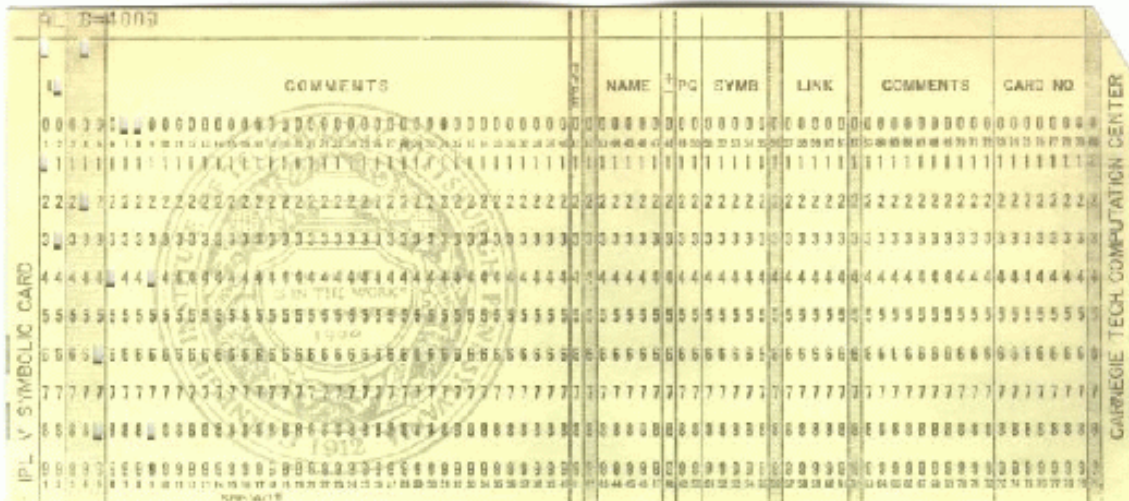


This card is a row-binary card for the IBM 701 computer. This machine had a 36 bit word, with two 18-bit instructions packed per word. Because the card readers for these machines read cards one row at a time, delivering the results as two words of data holding 72 bits of data, the binary format used for storing memory images from these machines on cards stored data in the same format. It is noteworthy that the machine could only read 72 of the 80 columns of data on the card, but that the particular 72 columns were determined by a plugboard! This card is clearly designed for use with a plugboard that ignores columns 1 to 8.

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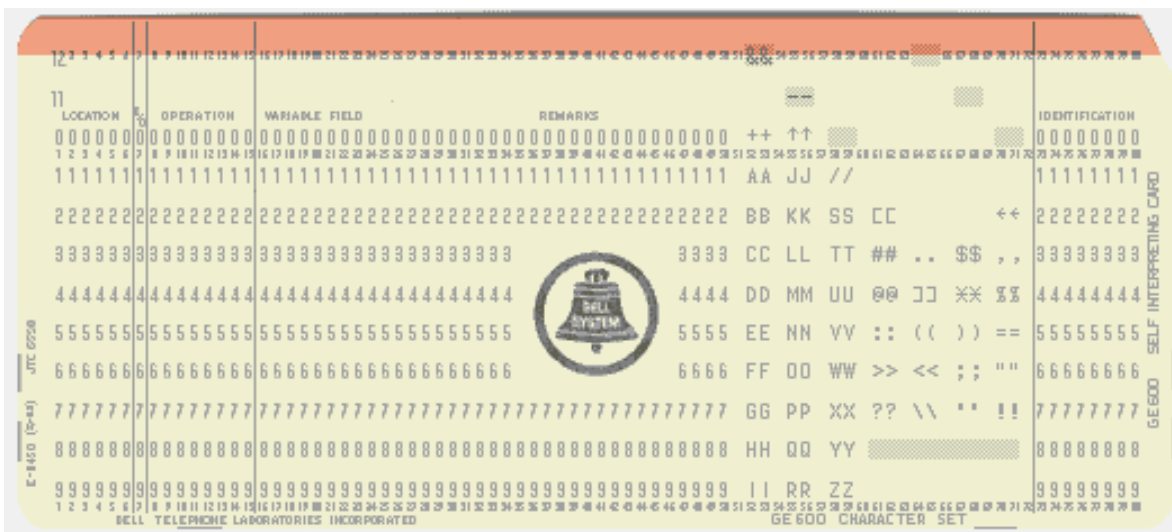
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## IPL V Symbolic Card



This card, from Carnegie Tech, is formatted for IPL V, one of a series of early list processing languages developed there. This language was important in the early development of the field of artificial intelligence, but it was completely supplanted by LISP. As a language, IPL V had many features reminiscent of assembly language, with fixed format constraints that are evident on this card.

## GE 600 Self Interpreting Card



This card, probably designed in October 1965 (judging by the notation "10-65" printed on the left edge), was printed for use with the GE 600 series computers at Bell Labs. These included a GE 635 at the Whippany lab and two GE 645 systems at Murray Hill, one in the computer center, and one used for the Multics project, a joint venture between Bell Labs, MIT and GE. All but the latter ran GECOS (the General Electric Computer Operating System).

This card is formatted for the GE 600 assembly language, and it has the nice feature that columns 50 to 72 are printed with complete documentation of the GE 600 6-bit BCD character set, as it was punched on cards.



# **A Collection of Punched Cards for Computer Programs**

**By Douglas W. Jones**

With conventional punched-cards, programmers spoke of punching their programs onto cards using a keypunch. Users of mark-sense cards have come up with interesting terminology to describe the analogous act of programming on such cards. One of the more interesting descriptive phrases is "we bubbled in our programs on cards", referring to filling the oval bubbles that are commonly used as marking targets on mark-sense forms. I first heard this usage in 2002 from Dr. Glen B. Cook.