

# Punch card

Updated: 10/30/2017 by Computer Hope

Early method of data storage used with early computers.

**Punch cards** also known as **Hollerith cards** and **IBM cards** are paper cards containing several punched or perforated holes that were punched by hand or machine to represent data. These cards allowed companies to store and access information by entering the card into the computer. The picture is an example of a woman using a punch card machine to create a punch card.

## Punch Card in Punch Card Machine

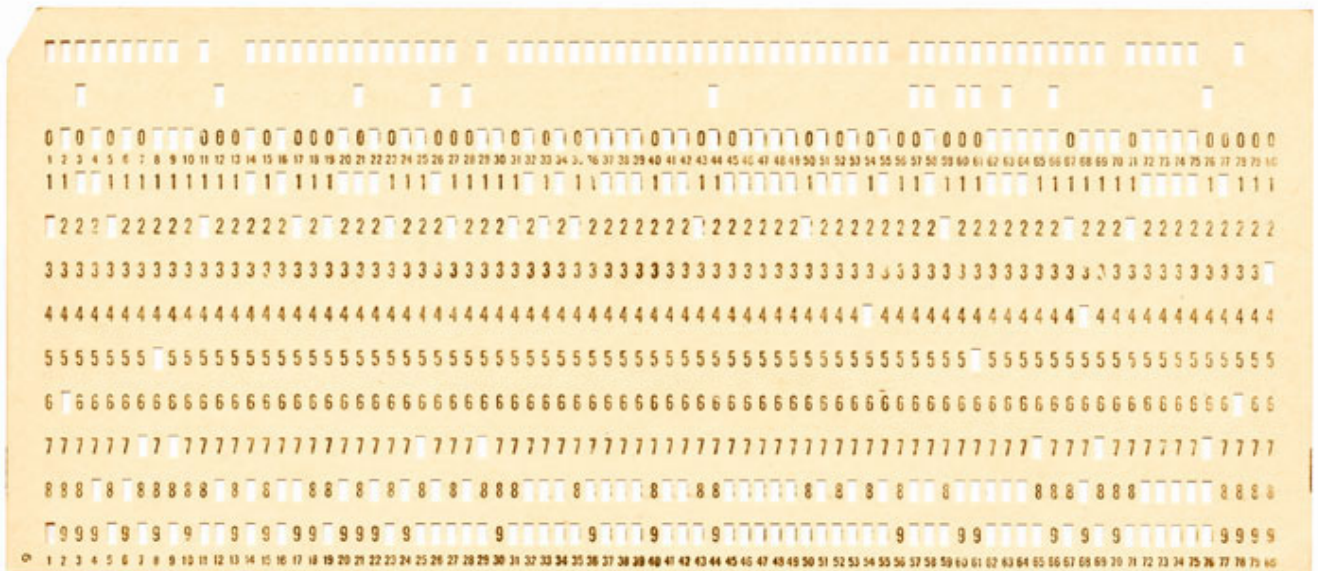


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## How did punch cards work?

Using a punch card machine like that shown in the picture above, data can be entered into the card by punching holes on each column to represent one character. Below is an example of a punch card.

## Example of a punch card



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Once a card has been completed or the Return key has been pressed the card technically "stores" that information. Because each card could only hold so much data if you wrote a program using punch cards (one card for each line of code) you would have a stack of punch cards that needed to remain in order.

To load the program or read a punch card data, each card is inserted into a punch card reader that input the data from the card into a computer. As the card is inserted, the punch card reader starts on the left-top-side of the card and reads vertically starting at the top and moving down. After the card reader has read a column, it moves to the next column.

## How can a human read a punch card?

Most of the later punch cards printed at the top of the card what each card contained. So, for these cards you could examine the top of the card to see what was stored on the card. If an error was noticed on the card, it would be re-printed. If no data was printed at the top of the card the human would need to know what number represented and then manually translate each column. If you are familiar with modern computers, this would be similar to knowing that binary **01101000** and **01101001** are equal to **104** and **105**, which in ASCII put together spells **hi**.

## History of the punch card

Punch cards are known to be used as early as 1725 for controlling textile looms. For example, Joseph Marie Jacquard used punch cards to create a self portrait woven in silk. The cards were later used to store and search for information in 1832 by Semen Korsakov. Later in 1890, Herman Hollerith developed a method for machines to record and store information on punch cards to be used for the US census. He later formed the company we know as IBM.

## Why were punch cards used?

Early computers could not store files like today's computers. So, if you wanted to create a data file or a program the only way to use that data with other computers was to use a punch card. After magnetic media was created and began to be cheaper punch cards stopped being used.

## Are punch cards still used?

Punch cards were the primary method of storing and retrieving data in the early 1900s, and began being replaced by other storage devices in the 1960s and today are rarely used or found.

## Are punch cards input devices?

No. The cards by themselves are not input devices. However, the punch card reader that reads the punch card is considered an input device because it is taking the data from the card and sending it to the

computer.

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