**The Human Genome Project** was a global research initiative that ran from 1990 to 2003. Its goal was to map and decode the entire human genome—the complete set of DNA containing all the instructions for building and maintaining our bodies.

Scientists sequenced (determined the order of) three billion DNA "letters" to identify genes and understand their functions. This involved massive amounts of data, requiring advanced computers and new algorithms for processing.

**Key outcomes of the project:**

* Decoded about 20-25 thousand genes.
* Created GenBank databases to store DNA information.
* Advanced medicine by enabling personalized treatments (tailored therapies based on a person's DNA).

The project revolutionized biology, medicine, and biotechnology, laying the foundation for genetic testing, targeted drug development, and genome editing technologies.

**What would be different without data analysis?**

Without data analysis, it would be impossible to study such a huge amount of information. We wouldn’t have genetic tests, treatments for inherited diseases, or personalized therapies.

**How did data analysis help?**

Data analysis found important genetic mutations, like BRCA1/BRCA2, which help doctors predict cancer risk and create better treatments.