**Who Was Alan Turing?**

Alan Turing was a brilliant British mathematician who took a leading role in breaking Nazi ciphers during WWII. In his seminal 1936 paper, he proved that there cannot exist any universal algorithmic method of determining truth in mathematics, and that mathematics will always contain undecidable propositions. His work is widely acknowledged as foundational research of computer science and artificial intelligence.

**Early Life**

English scientist Alan Turing was born Alan Mathison Turing on June 23, 1912, in Maida Vale, London, England. At a young age, he displayed signs of high intelligence, which some of his teachers recognized, but did not necessarily respect. When Turing attended the well-known independent Sherborne School at the age of 13, he became particularly interested in math and science.

After Sherborne, Turing enrolled at King's College (University of Cambridge) in Cambridge, England, studying there from 1931 to 1934. As a result of his dissertation, in which he proved the central limit theorem, Turing was elected a fellow at the school upon his graduation.

In 1936, Turing delivered a paper, "On Computable Numbers, with an Application to the Entscheidungsproblem," in which he presented the notion of a universal machine (later called the “Universal Turing Machine," and then the "Turing machine") capable of computing anything that is computable: It is considered the precursor to the modern computer.

Over the next two years, Turing studied mathematics and cryptology at the Institute for Advanced Study in Princeton, New Jersey. After receiving his Ph.D. from Princeton University in 1938, he returned to Cambridge, and then took a part-time position with the Government Code and Cypher School, a British code-breaking organization.

**Awards, Recognition and Royal Pardon**

Shortly after World War II, Turing was awarded an Order of the British Empire for his work. For what would have been his 86th birthday, Turing biographer Andrew Hodges unveiled an official English Heritage blue plaque at his childhood home.

In June 2007, a life-size statue of Turing was unveiled at Bletchley Park, in Buckinghamshire, England. A bronze statue of Turing was unveiled at the University of Surrey on October 28, 2004, to mark the 50th anniversary of his death. Additionally, the [*Princeton University Alumni Weekly*](https://paw.princeton.edu/article/top-25) named Turing the second most significant alumnus in the history of the school — [James Madison](https://www.biography.com/us-president/james-madison) held the No. 1 position.

Turing was honored in a number of other ways, particularly in the city of Manchester, where he worked toward the end of his life. In 1999, *Time* magazine named him one of its "100 Most Important People of the 20th century," saying, "The fact remains that everyone who taps at a keyboard, opening a spreadsheet or a word-processing program, is working on an incarnation of a Turing machine." Turing was also ranked 21st on the BBC nationwide poll of the "100 Greatest Britons" in 2002. By and large, Turing has been recognized for his impact on computer science, with many crediting him as the "founder" of the field.

Following a petition started by John Graham-Cumming, then-Prime Minister Gordon Brown released a statement on September 10, 2009, on behalf of the British government, which posthumously apologized to Turing for prosecuting him as a homosexual.

"This recognition of Alan's status as one of Britain's most famous victims of homophobia is another step towards equality and long overdue. But even more than that, Alan deserves recognition for his contribution to humankind," Brown stated. "It is thanks to men and women who were totally committed to fighting fascism, people like Alan Turing, that the horrors of the Holocaust and of total war are part of Europe's history and not Europe's present. So on behalf of the British government, and all those who live freely thanks to Alan's work I am very proud to say: we're sorry, you deserved so much better."

In 2013, Queen Elizabeth II posthumously granted Turing a rare royal pardon almost 60 years after he committed suicide. Three years later, on October 20, 2016, the British government announced “Turing’s Law” to posthumously pardon thousands of gay and bisexual men who were convicted for homosexual acts when it was considered a crime. According to a statement issued by Justice Minister Sam Gyimah, the law also automatically pardons living people who were “convicted of historical sexual offenses who would be innocent of any crime today.

In July 2019, the Bank of England announced that Turing would appear on the UK's new £50 note, along with images of his work. The famed scientist was chosen from a list of nearly 1,000 candidates nominated by the general public, including theoretical physicist Stephen Hawking and mathematician Ada Lovelace.