What is Computer Science (CS)?

To overly simplify things, engineering is to physics as computer science is to math. By that I mean computer science is applied math, however that is a gross understatement of the full range of things that computer science is capable of doing in the world.

Computer science also includes the study of the hardware and understanding of why things work the way they do. Not down to the physics of why the transistor works (a transistor is a glorified switch that allows electricity to flow through it or not flow through it) but logic based on simple components that have simple logic-actions.

Really. What is CS?

It is the study of understanding information by either modifying it or moving it. It's variation of applied mathematics in the sense that computers, these machines that are composed of different components, assist in the math involved in this data modifying and moving.

How is CS?

Computer Science is not for everyone but everyone should be familiar with it. Computer Science is efficient and in its pure form it is 100% correct. Not everyone is cut out to be a Computer Scientist, but they should dabble in it because it allows you to practice how to be systematic and through in tasks, and to be able to break down large problems into smaller ones.

Why is CS?

Computer Science is a long time coming. It's actually been around for hundreds of years in different forms. In Computer Science, there are functions. Think of them like functions in algebra: there is `f(x) = x + 2`. This function says there is a function called `f` that takes in a value called `x`, and results in a value that is the summation of `x` and `2`. Another name for a function is an *Algorithm.*

An algorithm is a series of steps that modify your input and give you a result as an output. They have been around for many years and in many different cultures. I won't go into them because that is not , but one of the most well known is the *Euclidean Algorithm* named after the great Greek mathematician Euclid. There are many others and even more are being written today because every program that does a task is in some way an algorithm.

You could say that the purpose of Computer Science is to make things easier for people. Others say it's the thirst to discover. Meanwhile others just enjoy the challenge.

Who is CS?

It depends on who you ask. Some people say it is the developers. Others say it is the businesses. Some people ask who was the founder of Computer Science. There are two people that come to mind for me: Ada Lovelace (daughter to Lord Byron) and Alan Turing.

Ada Lovelace worked with a mathematician named Charles Babbage. Babbage made a machine that could do mathematical processes but it was only built to see if it was possible. Lovelace actually tested it with "programs" that would do math problems.

Alan Turing wrote the academic paper about *Universal Turing Machines* which aided us in knowing if a solution to a problem is possible. He also built the world's first programmable, electronic, digital computer called the *Colossus*. Some people say that the *ENIAC* (Electronic Numerical Integrator And Computer) was the first computer, however it was created in 1946 while the *Colossus* was created in 1943. The reason for such confusion is because Turing was working for the government at the time and the *Colossus* was used against the Germans to help win WWII. This resulted in much of his work being censored.

When is CS?

Right now!

Where is CS?

Right here!