Class Activity - 2/10/23

Define what a lambda function does and how it's related to lambda calculus.

Lambda functions are also called anonymous functions. Lambda functions are often used in functional programming languages and are usually used as a shortcut for defining small functions inline. Lambda functions can also be used within functions. They can be created and used as a way to pass a function as an argument to another function. They are shorter to write compared to defined functions (no need for “def” and “return” for function) and can be written in a single line (ex- add = lambda x, y: x + y).

Lambda functions relate to lambda calculus because all functions in lambda calculus are anonymous. In lambda calculus, a lambda function is a function that can take one or more arguments and return a result. Lambda functions are similar. The lambda functions also take a similar notation to that of lambda calculus. For example, lambda calculus $f(x) = M$ or $(\lambda x.M)$ looks like this - lambda x: M - in python. Though lambda functions are based on the concepts of lambda calculus, they are not necessarily used in the same way or purposes.