Arbitrary-Precision Calculator

ABSTRACT

Precision of the computations offered by conventional systems are usually dependent on the system configuration. A conventional computing system has a certain number of bits assigned to its processor register, on which the various computations are performed. But arbitrary-precision arithmetic differs fundamentally in its process of computing over integers and floating point numbers. Though there is a trade-off associated with the speed and accuracy of calculations, our arbitrary precision arithmetic offers high precision calculations by storing the data on variable-sized and dynamically-allocated blocks of memory. The calculations will no longer be limited by the number of bits on the machine, giving us significant leverage in its varied applications. We hence propose an arbitrary-precision calculator using an abstract data structure for storing data on which calculations are performed and we look to enhance the computability of data with high precision through this endeavour.

We propose an arbitrary-precision calculator which will look to leverage the significant computing resources at our disposal to yield enhanced computation on high precision data by using an abstract data type.

Members:

Sagar Mankoti (731)

Aayush Gupta (661)