Assignment 2: BitVector

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NOVELTY REPORT

In this assignment, a BitArray array was utilized to contain 41944 BitArray arrays with 102400 bits each, providing a space-efficient and time-efficient approach for processing large numbers. By dividing the range of numbers (-2147483648 to 2147473408) into 102400 integers for each chunk and storing the bit values in 41944 BitArrays, this data structure provides rapid and easy lookups of previously seen integers. This approach has the benefit of using less memory because each value is kept in a single bit rather than bytes, and it has a constant time complexity [O (1)] for lookups that check if an integer has been seen before. This makes it well-suited for processing massive datasets and can significantly reduce the amount of time required.