

Lab 8 – 18th March
Topics – Bit Vectors and Bloom Filters

Problem 2

Design and implement bit operations on an array of int values treated as a bit vector:

- Let Arr be an integer array of size N (N is taken as input). We can treat this array as a bit vector by storing only 0s or 1s as its elements.
- Set operation: This operation sets the j^{th} element ($1 \leq j \leq N$) of the given integer array Arr. (j is taken as input)
- Get operation. This operation returns the j^{th} element ($1 \leq j \leq N$) of the given integer array Arr. (j is taken as input)

Implement the set and get operations on an array of integers, to be used as a bit vector. You can use the following table for designing your functions.

Key	Function	Input Format	Description
0	CreateBitVector	0 N	Creates a bit vector S in the form of an integer array of size N taken as input; And then initializes all its elements to zero.
1	Set	1 j	Sets the value of j^{th} element of S to 1.
2	Get	2 j	Returns the value of j^{th} element of S. You must also print the returned value.

Sample input and output

Sample Input	Sample Output
0 100	1
1 23	1
1 62	0
1 91	
2 62	
2 91	
2 34	
-1	