

SUM OF N NATURAL NUMBERS

The image displays the LabVIEW interface for a program titled "Exp no 6a Application of FOR LOOP.vi". The front panel (left) features a title "SUM OF N NATURAL NUMBERS", a numeric control for "N" set to 5, and a numeric indicator for "Sum of N Natural Numbers" showing 15. A stack of buttons (1, 3, 6, 10, 15) is also present. The block diagram (right) implements a for loop from 1 to N. Inside the loop, a shift register (0) and a counter (i) are used to calculate the sum. The sum is updated by adding the current value of i to the previous sum. The final sum is displayed in a numeric indicator labeled "Sum of N Natural Numbers" showing 123.

Front Panel:

- Title: SUM OF N NATURAL NUMBERS
- Input: N (Numeric Control, value: 5)
- Output: Sum of N Natural Numbers (Numeric Indicator, value: 15)
- Buttons: 1, 3, 6, 10, 15

Block Diagram:

- For Loop: Range 1 to N.
- Shift Register: Stores the current sum, initialized to 0.
- Counter: i (Index of the loop).
- Calculation: Sum = Sum + i.
- Output: Sum of N Natural Numbers (Numeric Indicator, value: 123).

SUM OF N^2 NUMBERS

The image displays the LabVIEW interface for a program titled "Exp no 6b Application Using FOR LOOP.vi". The interface is split into two main sections: the front panel (left) and the block diagram (right).

Front Panel:

- It features a title "SUM OF N^2 NUMBERS".
- There is a numeric input control labeled "N" with the value 5.
- Below the input, there is a numeric display control labeled "Sum of N^2 Numbers" showing the result 55.
- Below the display, there is a list of numbers: 1, 5, 14, 30, and 55, which represent the cumulative sums of squares up to each integer from 1 to 5.

Block Diagram:

- The block diagram implements the calculation using a FOR loop.
- The loop is controlled by the "N" input, which is connected to the loop's iteration count terminal.
- Inside the loop, there is a counter variable (represented by a blue box with a left arrow) that starts at 0 and increments by 1 in each iteration.
- The counter variable is connected to a multiplier block (represented by a yellow triangle with an "x" symbol) to calculate the square of the current iteration value.
- The result of the multiplication is then added to the previous sum using an adder block (represented by a yellow triangle with a "+" symbol).
- The final result of the addition is connected to the "Sum of N^2 Numbers" output indicator.