Insert this transcript on "transcript" tab on ModelSim. Don't forget to plug the outputs: "HEX(1)", "HEX(0)", "LEDR", and inputs: "SW", "KEY(0)", "KEY(1)", "CLOCK".

This transcript is capable of using the SUM operation of the calculator.

The inputs given are “00 00110001”, where 00 is the sum operation and 00110001 (binary) is equal to 49 (decimal) and the second input “00 00100000”, the number 00100000 (binary) is equal to 32 (decimal).

The outputs in LEDR will present “0001010001” which is 32 + 49 = 81. On HEX(1) you’ll have “0010010” which REPRESENTS the number 5 in hexadecimal on the display, and on HEX(0) you’ll have “1111001” which REPRESENTS the number 1 in hexadecimal on the display. Therefore HEX(1) concatenated with HEX(0) will result in 51 (hexadecimal), which is 81 in decimal. So, the sum is right both on the LEDR and also on HEX(1) and HEX(0) on the displays!

restart -f -nolist -nolog -nobreak -novirtuals -noassertions -nofcovers -noatv

force -freeze sim:/top\_calc/CLOCK 1 0, 0 {5 ps} -r 10

force -freeze sim:/top\_calc/KEY(0) 0 10

force -freeze sim:/top\_calc/KEY(1) 0 10

force -freeze sim:/top\_calc/KEY(0) 1 20

force -freeze sim:/top\_calc/KEY(1) 0 20

force -freeze sim:/top\_calc/KEY(1) 1 30

force -freeze sim:/top\_calc/SW 0000110001 40

force -freeze sim:/top\_calc/KEY(1) 0 40

force -freeze sim:/top\_calc/SW 0000100000 50