1. Write a Verilog code to design a hardware for calculating the GCD of two 8-bit numbers.

Next write a test bench to test the design. Your test bench must have fifteen different inputs. Put five-time unit delay between consecutive inputs.

2. Write an assembly language program for insertion sort of 10 integers given input by the user in the console. Display the final result in the console.

3. Write an assemble language program for printing fibonacci numbers upto 500. Display the series in the console.

4. Take input a number p and a single-precision floating point vector B which has p elements, b_0, b_1, $\cdots$, b_p

Calculate the following $q = \sum_{i=0}^{p-1} (-1)^i b_i$

Display the final result in the console.