**EE6361: Advanced concepts of VLSI**

**Assignment 1**

Q1. Write a Verilog code to create a memory consisting of 32 registers of 8 bits each. Control the read and write operations using signals read enable and write enable respectively. Use a 5-bit address bus (5:32 decoder) for register selection.

Note: First understand how to create a Flip flop and register with read and write enable signals. Then create a Register bank with read and write enable signals and address select lines.  Next build a 5:32 decoder to reduce the number of address lines.

Write a testbench code to demonstrate:

1. Writing a value into selected register.
2. Reading from selected register.
3. Moving contents from one register to another.

Verify your results using simulations.