

ABSTRACT

Design and IMPLEMENTATION OF CPU

Objective of the project:

1. Central processing unit
2. Behavioral/RTL modeling of Design blocks
3. Design of stimulus modules to test the functionality of Design.
4. Synthesize design to extract Gate level net list.
5. Perform the post Synthesis (Logical) Simulation of the design

Description:

To design a simple CPU that would allow you to perform the following operations:

1. Load Instructions into your Instruction memory.
2. Load a value into register A. (LD A)
3. Load a value into register B. (LD B)
4. Perform any logical operation using the ALU (8 operations) and store the Result in register C.
5. Store the value of register C back to memory. (Store C)
6. Read the data stored in data memory at the given Address. (RdMem)
7. Exit the program without further execution. (Exit)

All the instructions must be stored in memory before starting executing. Your CPU Will access the memory to fetch the instructions and execute them one after the Other.

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