STEP 1: Describe all the registers in the computer (including non-ISA registers)

STEP 2: Describe a basic layout (data path) for the registers, busses, memory and ALU

STEP 3: Describe the high-level operation of the Control Unit (CU)

STEP 4: Specify the register-transfer statements needed to fetch an instruction from memory

STEP 5: Specify the register-transfer statements needed to execute each of the 16 instructions

STEP 6: Fine tune the data path

STEP 7: Complete the description of the CU

STEP 8: Design the ALU and its interface