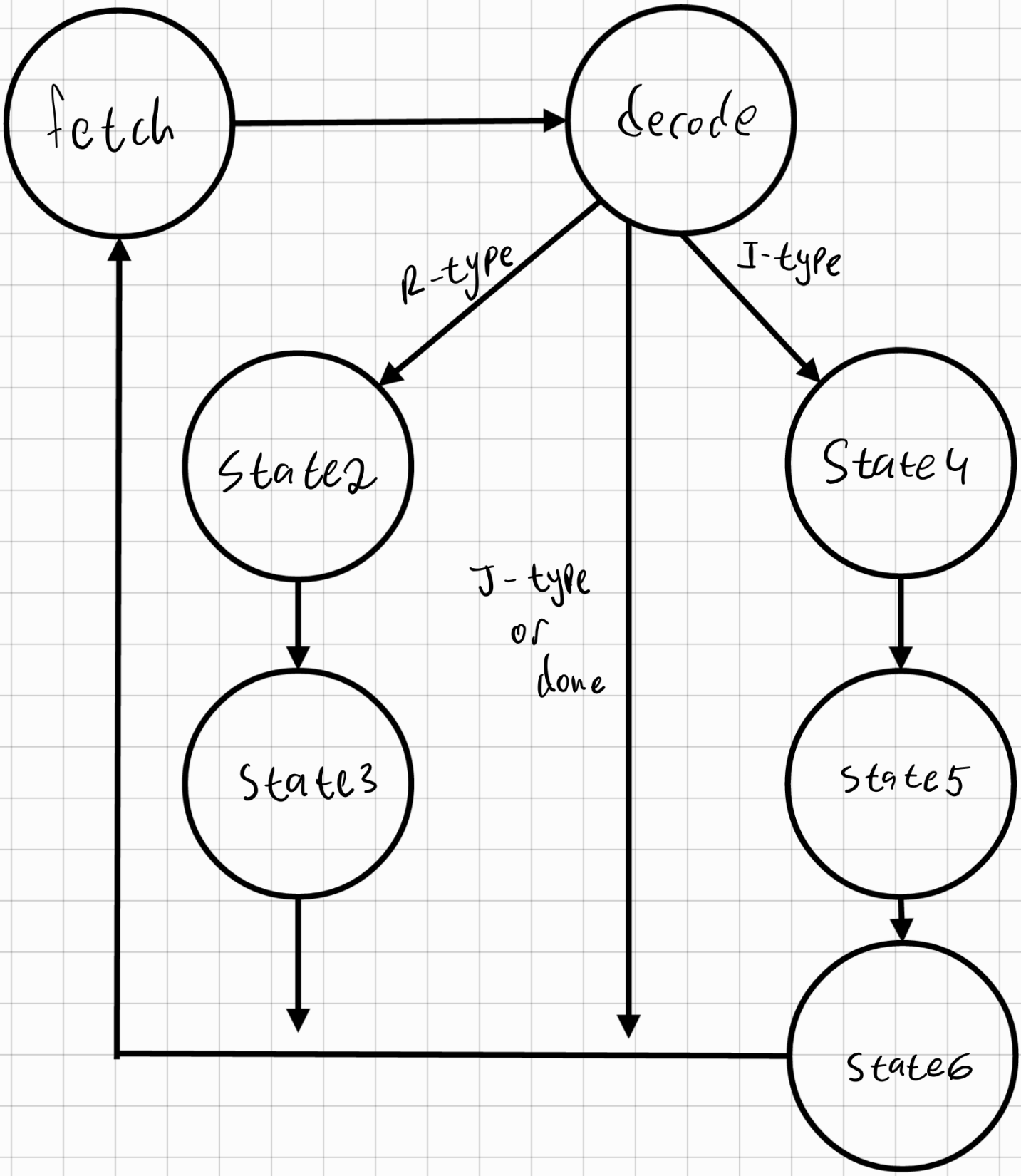
fetch
decode
R-type
I-type
J-type
or
done
State2
State3
State4
State5
State6

fetch

IRin = 1
opcode, RFaddr = unaffected
Other = 0
Next = decode

decode

R-type:

Ain = 1
RFout = 1
RFaddr = 01
OPC = unaffected
others = 0
Next: S2

Done:

PCin = 1
PCSel = 01
fsmDone = 1
others = 0
Next: fetch

Move:

Imm1_in = 1
RFin = 1
PCin = 1
others = 0
Next = fetch

Load or Store:

Imm2_in = 1
Ain = 1
other = 0
Next: S4

J-type

PCin = 1
others = 0
if the jump condition is satisfied: PCSel = 01
otherwise PCSel = 00

Next: fetch

R-type continuation

S2: R-type execution

Cin = 1
RFout = 1
RFaddr = 10
OPC = According to operation
Others = 0
Next: S3

S3: R-type finish

Cout = 1
RFin = 1
PCin = 1
others = 0
Next: fetch

I-type continuation

S4: I-type part 1

Cin = 1
RFout = 1
RFaddr = 01
OPC = 0000
other = 0
Next = S5

S5: I-type part 2

Cout = 1
if Store: Mem_in = 1
others = 0
Next: S6

S6: I-type part 3

PCin = 1
if load: Mem_out = 1, RFin = 1
if Store: Mem_WR = 1, RFout = 1
others = 0
Next = fetch

Reset:

PCin = 1
PCsel = 10
others = 0
Next = fetch