


AI???????

????

1.   Dot / GEMM => Join+Reduce


2.   ElementWise Broadcast

3.   Reduce  G/S

4. 

5. 

1.  + 

2.  imm

3. 

4.

```
/* emulate GPU's LOP3.LUT (three-input logic op with 8-bit truth table) */
uint32_t lop3_fast (uint32_t a, uint32_t b, uint32_t c, uint8_t ttbl)
{
    uint32_t r = 0;
    if (ttbl & 0x01) r |= ~a & ~b & ~c;
    if (ttbl & 0x02) r |= ~a & ~b & c;
    if (ttbl & 0x04) r |= ~a & b & ~c;
    if (ttbl & 0x08) r |= ~a & b & c;
    if (ttbl & 0x10) r |= a & ~b & ~c;
    if (ttbl & 0x20) r |= a & ~b & c;
    if (ttbl & 0x40) r |= a & b & ~c;
    if (ttbl & 0x80) r |= a & b & c;
    return r;
}
```

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1.   


1. 

2. 

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1. 

2.  throughput

3.  latency

1.  scoreboard  forwarding

pipeline

2.  mailbox  barrier

4.
5.
6. (roq sram)
7.

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1.
 1.
 2.
 3.
2.
 1.
 2.
 3.
3.

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??/??

1.
2.
 1. latency
 2. “ ” ,
 3. buffer footprint,
 4.
 5. PC
 6.
 1.
 2.
 3. latency

??/??

1.
2.
3. cycle
4.
 1. 2
 2. hash mmu
 3. cuda LOP3.LUT
 4.

MMU

Revision #6

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