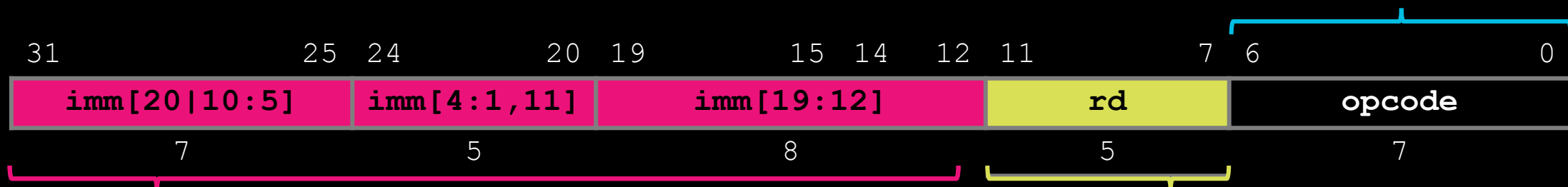


J-Format Instruction Layout

- J-Format (textbook: UJ-Type) used only for jal:

jal rd, Label

opcode 1101111



"Destination" Register gets "return address."

$$rd = PC + 4$$

Immediate represents relative offset in increments of 2 bytes.

- To compute new PC: $PC = PC + \text{byte_offset}$.
- 20 immediate bits imply $\pm 2^{18}$ 32-bit instructions reachable:
 - 1 bit: 2's complement (allow +/- offset), 1 bit: half-word/16-b instruction support
- Immediate bit encoding optimized to reduce HW cost

What about jumping *further*?

Next: How to load 32-bit immediate into a register!