Branch

- Branch (or *jump*) instructions change the flow of control by modifying the program counter (PC)

- Conditional and unconditional branches are often handled in parallel with decode or execute

- Conditional branches (B-type) have a 12-bit immediate that is shifted left one bit and sign extended before being added to the PC
  - Jump PC ± 4KiB (±1K 32-bit instructions or ±2K 16-bit compressed instructions)

- Unconditional jumps (J-type) have a 20-bit immediate that is shifted left one bit and sign extended before being added to the PC
  - Jump PC ± 1MiB (±256K 32-bit instructions or ±512K compressed instructions)
  - Jump-and-link-register (JALR) jump to a register specified value, so can jump anywhere in the address space