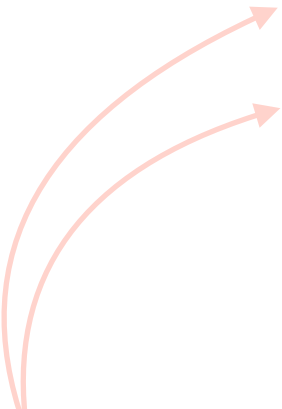# Control-Flow Instructions

- Control flow, at machine code level, is the order in which instructions are executed.

- All previous instructions feature implicit **trivial control flow**, that is, they simply set the program counter to the next instruction. Their main purpose is **data manipulation.**

- The following instructions have a more sophisticated effect on control flow.

Control-Flow Instructions

beq	$rs1	$rs2	imm
jal	$rd	imm	
jalr	$rd	$rs1	imm

- The first two instructions use a different addressing mode called pc-relative addressing at the resolution of 12 bit.

- **Branch on equal** sets the `pc` to `pc + imm` if the content of `$rs1` matches `$rs2`.

- **Jump and link** is used for procedure calls and stores the return address (address of next instruction) in `$rd`.

- **Jump and link register** is similar to `jal`, except that it uses register relative addressing in order to jump a little further.

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