

Ex2. Explain the differences between the S and SB instruction formats.

1. S-format instructions

- S-format instructions is used for “Store” instructions (data is written into memory).
- 3 instructions: sb (store byte), sh (store half) and sw (store word).
- Core of S instruction formats:

imm[11:5]	rs2	rs1	funct3	imm[4:0]	opcode
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- Immediate is used as an offset.

2. SB-format instructions (B-format instructions)

- B-format instructions is used for “Branch” instructions (jump to different part of the code).
- 6 instructions: beq, bne, blt, bge, bltu and bgeu.
- Core of B instruction formats:

imm[12 10:5]	rs2	rs1	funct3	imm[4:1 11]	opcode
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- Immediate is used as a branch offset.