TERM TEST 02

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course title: computer Architecture

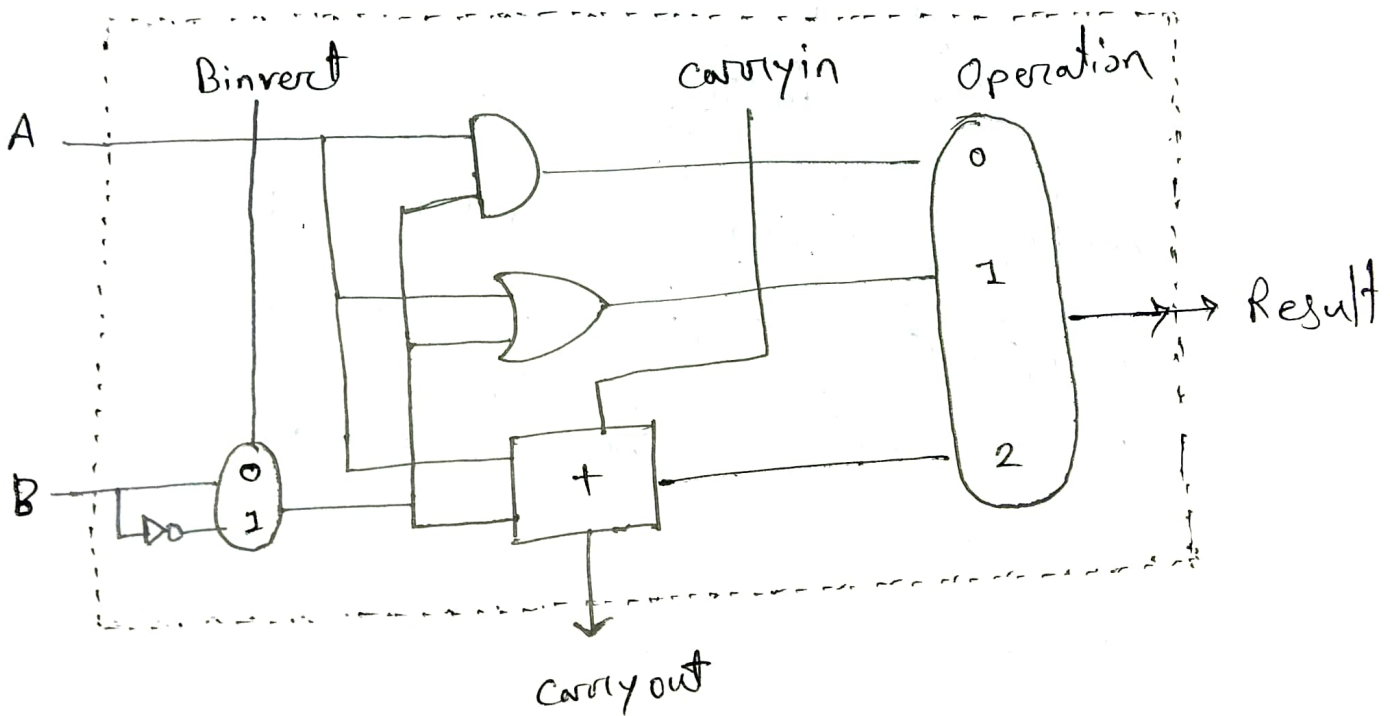Course Code: CSE-311

Ans no Q1

a) Single-cycle implementation is not used because the performance of the single-cycle implementation is not good. We can not use more or less cycles to execute each instruction, depending on the complexity of the the the instruction.

Advantages of pipeline datapath:

- Instruction throughput increases.
- Faster ALU can be designed when pipelining is used
- Pipelining increases the overall performance of the CPU.
- Pipelined CPU's works at higher clock frequencies than the RAM.

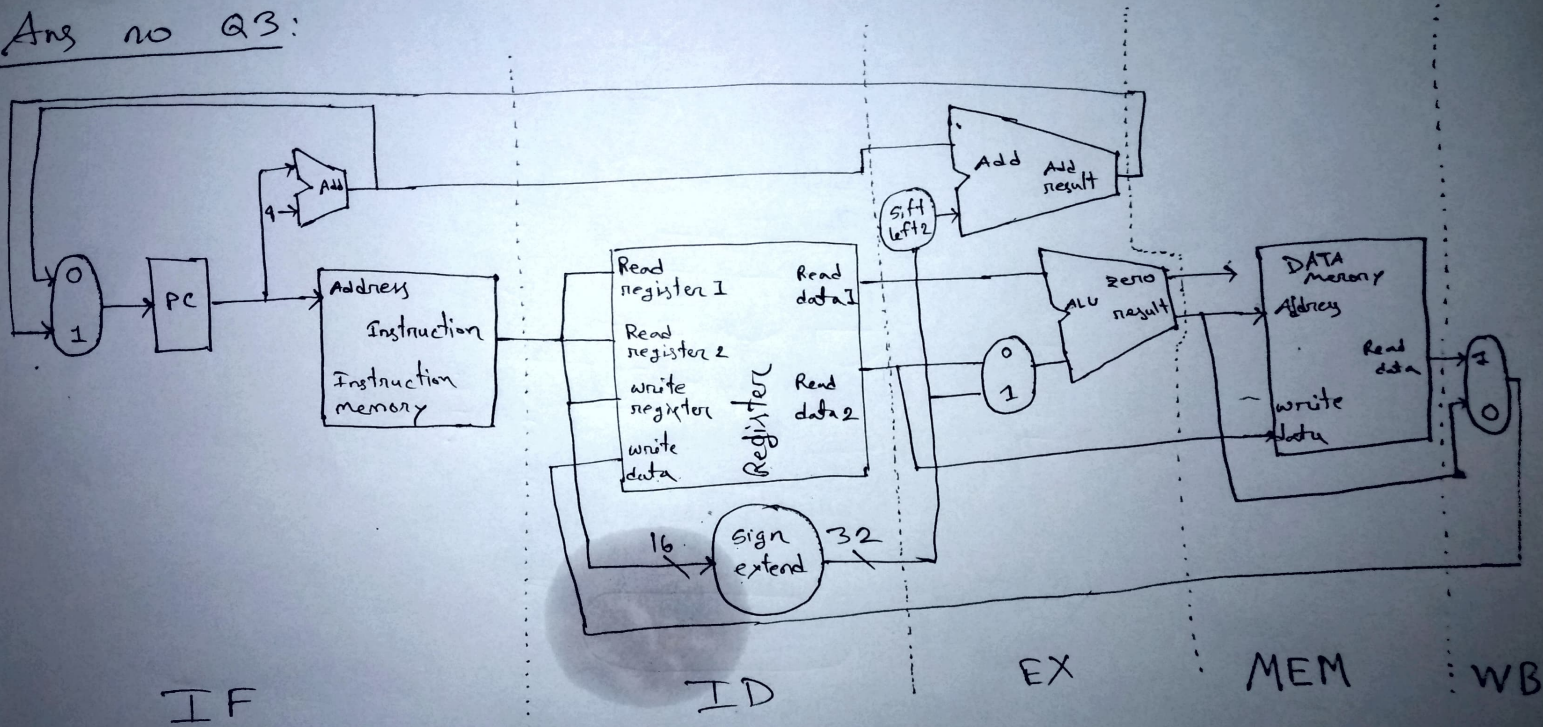b) An arithmetic logic unit (ALU) is a digital circuit used to perform arithmetic and logic operations.

$ An 1 bit ALU is given in below:

Ans no Q3:

Fig: A single cycle datapath