CS230 Out-Video Quiz **Lecture 4**

1. In the single cycle implementation of MIPS, how many read ports are used in the register file?

   (a) 0 (Rs and Rt values come from the instruction itself)
   (b) 1 (Rs and Rt are read in different halves of the cycle)
   (c) 2 (Rs and Rt are read in parallel)
   (d) 3 (Rs, Rt and Rd are read in parallel)

   Answer: (c)

2. In the single cycle implementation of MIPS, the first operand to the ALU is

   (a) always the value from Rs
   (b) always the value from Rd
   (c) sometimes from Rs, sometimes from Rt
   (d) sometimes from Rt, sometimes from Rd

   Answer: (a)

3. Which one of the following is true about about the control unit of the MIPS single cycle implementation?

   (a) It is a sequential unit, split into two (main and auxiliary)
   (b) It is a monolithic sequential unit
   (c) It is a monolithic combinatorial unit
   (d) It is a combinatorial unit, split into two (main and auxiliary)

   Answer: (d)

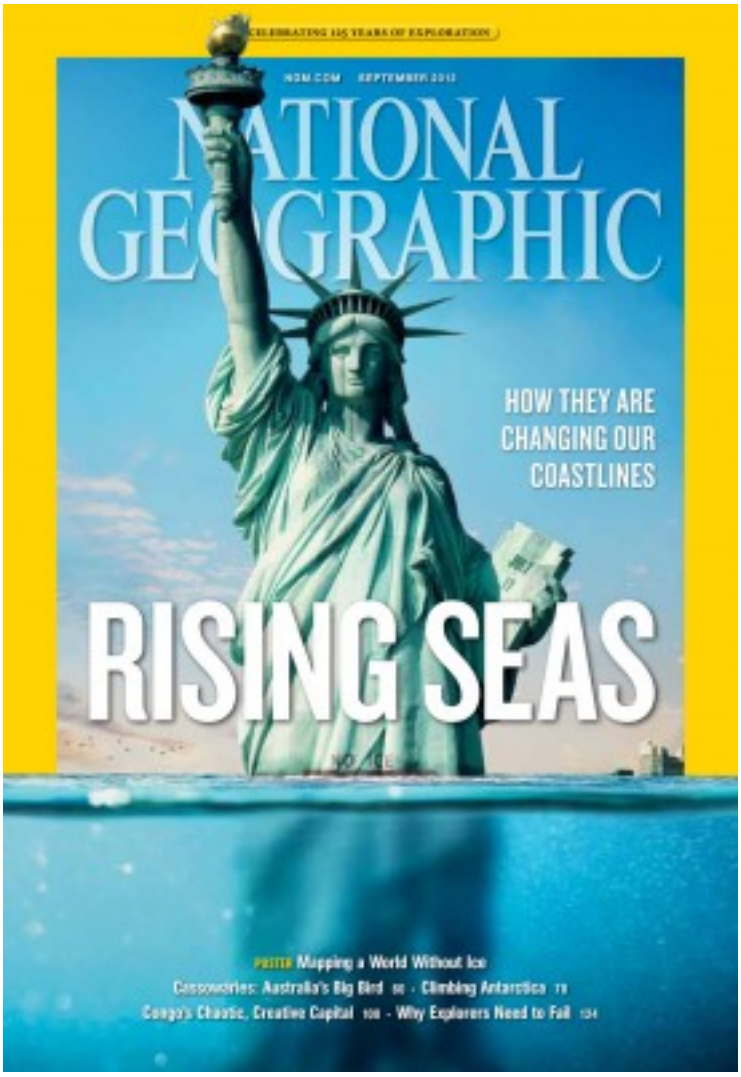
4. For which of the following purposes is the ALU used, in the single cycle implementation of MIPS? Select all that apply.

   (a) Computation of `PC+4`
   (b) Computation of branch target in `beq`
   (c) Register-Register arithmetic operations like `add`, `sub`, etc.
   (d) Memory address computation in `lw, sw`

   Answer: (c), (d)

5. In 2013, the National Geographic magazine had the below picture in its cover, drowning about a third of the 93m Statue of Liberty. This thus indicates a future sea-level rise of about 26 metres. According to the IPCC (Intergovernmental Panel on Climate Change), what is the estimated sea-level rise by 2100, due to global warming?

   (House points question, optional)



   (a) About 1 m

   (b) About 10 m

   (c) About 25 m

   (d) About 50 m

   Answer: (a)