

Problem 1:

Please write down the byte codes of the following y86 instructions

Y86 instructions	Byte codes (hex value)
<code>rrmovq %rbx, %rdx</code>	[1]
<code>jmp 0xabc</code>	[2]
<code>addq %rbx, %rax</code>	[3]
<code>call 0x1234</code>	[4]
<code>rmmovq %rcx, 0x12(%rbx)</code>	[5]
<code>jle 0x280</code>	[6]
<code>pushq %rax</code>	[7]

Problem 2:

We have introduced HCL in class to design combinatorial logic circuit. Try to write HCL code for the following circuit:

- 1) Take A, B, C and D as input, output the max value of them.
E.g. $\text{Max}(1,2,3,4) = 4$.
- 2) Take A, B, and C as input, output the secondary biggest value of them
E.g. $\text{Median}(3,2,1) = 2$.

Problem 3:

Please explain the pros and cons of RISC compared with CISC.