

Homework 7

Y86

1. Write down the byte codes of the following y86 instructions

Y86 Instructions	Byte Codes
irmovl \$0x20, %ebx	
jmp 0x1314	
call 0x2323	
jne 0x4312	
popl %ebx	
mrmovl 0x30(%edx), ebx	

2. We now have a piece of Y86 code. Please answer the value of %eax when the function ends, and give a description about what the function has done.

C-like Code is :

```
int a[5] = {2, 3, 4, 5, 6};
```

```
int b = 4;
```

```
fun(a, b);
```

Y86 Byte Code:

0x042: a05f

0x044: 2045

0x046: 501508000000

0x04c: 50250c000000

0x052: 30f030000000

0x058: 6222

0x05a: 737c000000

0x05f: 506100000000

0x065: 6160

0x067: 30f304000000

0x06d: 6031

0x06f: 30f3ffffff

0x075: 6032

0x077: 745f000000

0x07c: 2054

0x07e: b05f

0x080: 90

HCL

1. We have introduced HCL in class to design combinatorial logic circuit. Try to write HCL code for the following circuit: Take A, B, C and D as input, output the min value of them.

E.g. $\text{Min}(1,2,3,4) = 1$.

2. We now have an expression:

```
bool out = (a || !a) || (b && c)
```

Please explain the difference between C and combinational logical when they execute the expression above.