# Chapter 2

1. **Assume that registers x5 and x6 hold the values 0x8000000000000000……**

Answer：. 1) 5000000000000000

2) A

3) B000000000000000

4) B

5) D000000000000000

6) A

1. **Suppose the program counter (PC) is set to 0x20000000.**

Answer：. 1) [0x1ff00000, 0x200FFFFE]

2) [0x1FFFF000, 0x20000ffe]

1. **2.29 Implement the following C code in RISC-V assembly.**

Answer：.

// IMPORTANT! Stack pointer must reamin a multiple of 16!!!! fib:

beq x10, x0, done // If n==0, return 0

addi x5, x0, 1

beq x10, x5, done // If n==1, return 1

addi x2, x2, -16 // Allocate 2 words of stack space

sd x1, 0(x2) // Save the return address

sd x10, 8(x2) // Save the current n

addi x10, x10, -1 // x10 = n-1

jal x1, fib // fib(n-1)

ld x5, 8(x2) // Load old n from the stack

sd x10, 8(x2) // Push fib(n-1) onto the stack

addi x10, x5, -2 // x10 = n-2

jal x1, fib // Call fib(n-2)

ld x5, 8(x2) // x5 = fib(n-1)

add x10, x10, x5 // x10 = fib(n-1)+fib(n-2)

// Clean up:

ld x1, 0(x2) // Load saved return address

addi x2, x2, 16 // Pop two words from the stack

done:

jalr x0, x1

1. **Show how the value 0xabcdef12 would be arranged in memory ……**

Answer：.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Address | 1 | 2 | 3 | 4 |
| Little-Endian | 12 | ef | cd | ab |
| Big-Endian | ab | cd | ef | 12 |

来源 2.5

1. **Provide the instruction type and assembly language instruction ……**

Answer：. 1) A

2) A

# chapter3

1. **Assume decimal integers 185 and 122 are unsigned 8-bit integers,……**

Answer：. 1) 65 2) C

1. **Given the bit pattern 0x0C000000, if it is a two’s complement ……**

Answer：. 201326592、201326592

1. **What decimal number does the bit pattern 0x0C000000 represent if it is a floating point number? Use the IEEE 754 standard.**

A. 1.0\*2-101 B. 1.0\*2-103 C. 1.05\*2-101 D. 1.05\*2-103

Answer：: B

1. **The binary representation of the decimal number 63.25 assuming …….**

Answer：. 427D0000