

### 1.Addressing:

We have following value address binding table:

| Address | Value | Register | Value |
|---------|-------|----------|-------|
| 0x002   | 0x105 | %eax     | 0x02  |
| 0x310   | 0x106 | %ebx     | 0x10  |
| 0x334   | 0x107 | %ecx     | 0x300 |
| 0x316   | 0x108 | %edx     | 0x50  |
| 0x322   | 0x109 |          |       |

| Operand           | Value |
|-------------------|-------|
| %eax              |       |
| (%eax)            |       |
| \$0x310           |       |
| (%ebx,%ecx)       |       |
| 16(%ecx)          |       |
| 0x002             |       |
| 0x30(%ecx,%eax,2) |       |

### 2. Describe the behavior of the instruction : pushl %esp;

### 3.Suppose we have the following code fragment:

Instruction 1 : pushl %ebp  
Instruction 2 : movl %esp,%ebp  
Instruction 3 : movsbl %al,%ebx  
Instruction 4 : movzbl %bh,%ecx  
Instruction 5 : pushl %esp  
Instruction 6 : movl %ebp ,%esp  
Instruction 7 : popl %ebp

Before the execution of the first instruction of the above code, the register values are:

%eax = 0x7788

%esp = 0xBFFFFFFA0

%ebp = 0xBFFFFFFB0

After instruction 1 finished :

|      |  |
|------|--|
| %ebp |  |
| %esp |  |
| %eax |  |

After instruction 2 finished :

|      |  |
|------|--|
| %ebp |  |
| %esp |  |
| %eax |  |

After instruction 3 finished :

|      |  |
|------|--|
| %esp |  |
| %ebx |  |
| %eax |  |

After instruction 4 finished :

|      |  |
|------|--|
| %eax |  |
| %ebx |  |
| %ecx |  |

After instruction 5 finished :

|        |  |
|--------|--|
| %ebp   |  |
| %esp   |  |
| (%esp) |  |

After instruction 6 finished :

|      |  |
|------|--|
| %ebp |  |
| %esp |  |
| %eax |  |

After instruction 7 finished :

|      |  |
|------|--|
| %ebp |  |
| %esp |  |
| %eax |  |

4.

```
Int a [10];  
Void f(void){  
    Int i ;  
    For(i = 0; i<10;i++)  
        a[i] = i;  
}
```

The address of a is 0X100 (in fact you can not access the memory address 0x100)

Q1:after the function f () finished , fill the following table(if you do not know the value input NONE)

|      |       |
|------|-------|
| %ecx | 0x100 |
| %eax | 5     |

|               |  |
|---------------|--|
| \$0x100       |  |
| 0x104         |  |
| 0x0FC         |  |
| (%ecx,%eax,4) |  |