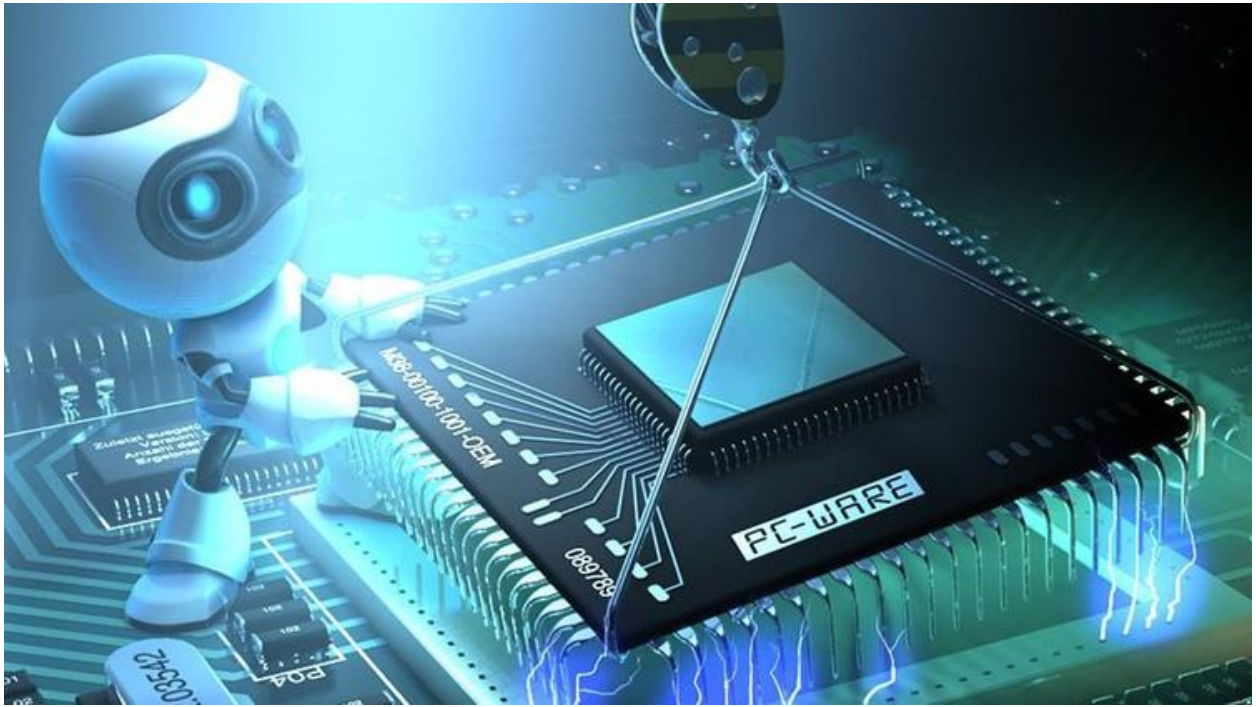
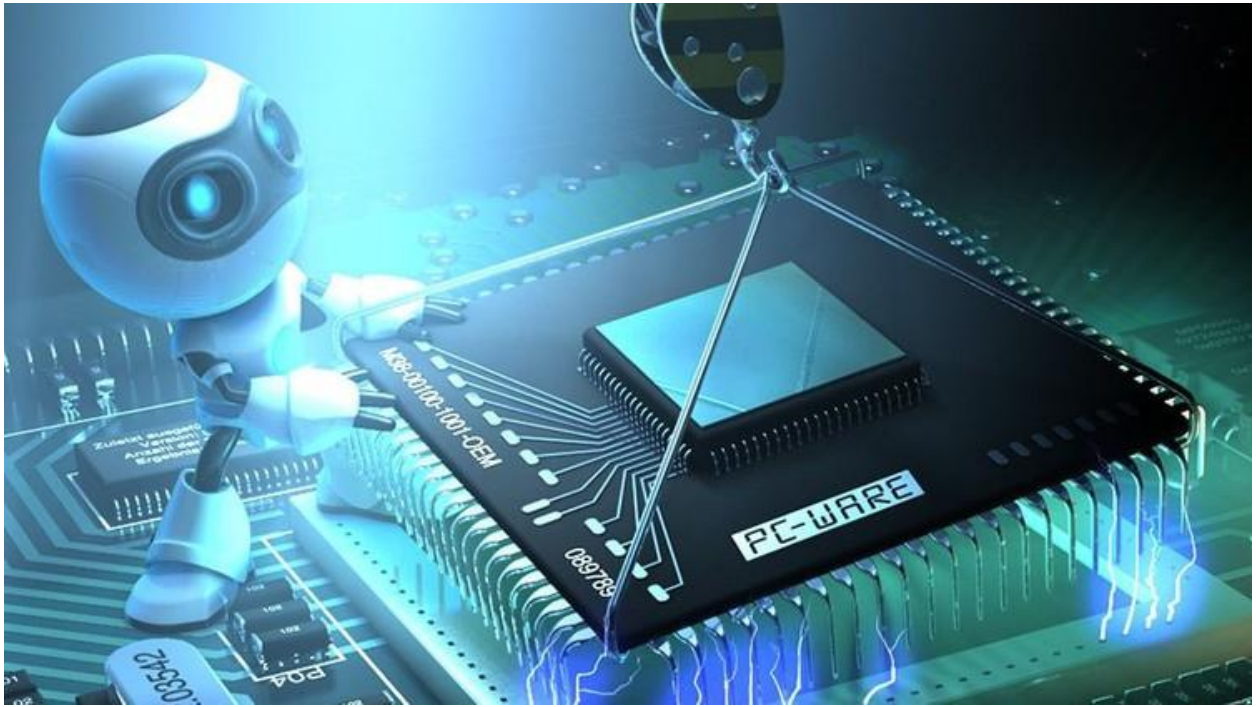
Previous Study - Problem 2



Laboratory Session 2



Previous Study

2. Draw the activation block and translate the following code to x86.

8(%ebp) 20(%ebp)

```
int SimpleSub(S1 a, char b) {
        int i;
        if (a.c==b)
                i=0;
        else
                i=*(a.m);
        return i+a.k;
}
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Local variable i
S1.k
S1.m
b
&S1

Previous Study

2.

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```

Part 1/2

```
pushl   %ebp
movl    %esp, %ebp
movb    8(%ebp), %al            # 8(%ebp) = a.c -> al

compb   %al, 20(%ebp)           # comp a.c with b
jne  else                       # jump to else if a.c != b
movl    $0, %eax                # eax = 0
jmp endif
```

x86

Previous Study

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                i=0;
        else
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        return i+a.k;
}
```

Part 2/2

```
else:
        movl    16(%ebp), %ecx      # ecx = a.m
        movl    (%ecx), %eax        # eax = *a.m

endif:
        addl    12(%ebp), %eax      # eax = i + a.k
        movl    %ebp, %esp
        popl    %ebp
```

x86