Computer Architecture – LAB 9

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OSLAB
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LAB 9

- Convert the given high-level code to MIPS
  - ex)

High-level code

```
if (i == j)
        f = g + h;

f = f - i;
```

MIPS assembly code

```
# $s0 = f, $s1 = g, $s2 = h, $s3 = i, $s4 = j
        bne $s3, $s4, L1
        add $s0, $s1, $s2
L1:
        sub $s0, $s0, $s3
```

LAB 9 – 1

- Convert the given high-level code to MIPS

High-level code

```
switch (amount) {
        case 20:
                fee = 2;
                break;
        case 30:
                fee = 3;
                break;
        default:
                fee = 0;
}
```

MIPS assembly code

```
# $s0 = amount, $s1 = fee
case 20:



case 30:



default:

done:
```

LAB 9 – 2

- Convert the given high-level code to MIPS

High-level code

```
int pow = 1;
int x = 0;

while (pow != 128) {
        pow *= 2;
        x++;
}
```

MIPS assembly code

```
# $s0 = pow, $s1 = x


while:



done:
```

LAB 9 – 3

- Convert the given high-level code to MIPS

High-level code

```
int sum = 0;

for (i = 0; i != 10; i++) {
        sum += i;
}
```

MIPS assembly code

```
# $s0 = i, $s1 = sum


for:



done:
```

LAB 9 – 4

- Convert the given high-level code to MIPS

High-level code

```
int sum = 0;

for (i = 1; i < 101; i *= 2) {
        sum += i;
}
```

MIPS assembly code

```
# $s0 = i, $s1 = sum


loop:



done:
```

TASK

- 과제
  - LAB 9-1, 9-2, 9-3, 9-4 를 완성하여 워드문서에 정리하여 제출
- 파일명
  - ca_09_학번_이름.docx
- 제출기한
  - 12월 7일 23:59까지
- **수업시간 내 완료시 조교의 확인을 받고 퇴실가능, 미확인시 결석처리**