

Lab 4

Lab 4 is a re-do of lab 2. I'll provide the main program and you need to write a Capitalize procedure where in C pseudocode the deceleration would be:

```
void Capitalize(char *Input, char *Output)
{
    // Copy Input to Output, capitalizing and being sure to copy the NULL terminator
    // You should also be able to handle the case that Input==Output
}
```

Pointers to Input and Output will be passed in \$a0 and \$a1. You do not need to save and restore \$a0 and \$a1, the conventions say that the caller should not assume that they are not modified. Note that there's also no need to save and restore \$ra in Capitalize, since it never modifies \$ra.

I'll e-mail the main program to the mailing list. Your program will be graded on three criteria

- 1) That no register conventions are violated, e.g. don't overwrite \$s0 without saving it
- 2) That there is no extra code that does not need to be there. Pushing 32 bytes onto the stack and popping 32 off to store 4 bytes is not necessary, especially since if you don't touch registers that the convention says the caller can't modify there's no need to save and restore anything.
- 3) That your code produces the correct output:

```
XXXXXXXXXXXXXXXXXXXXXXX
```

```
HELLO
```

```
Y` '{AAAZZZ/:1290BLA
```

```
Y` '{AAAZZZ/:1290BLA
```

```
Y` '{AAAZZZ/:1290BLA
```