

Name _____

COMP 303

HW #5

1. Use an ASCII table to convert the following hexadecimal digits to characters and decipher the message:

```
.data 0x47 0x6f 0x20 0x4b 0x6f 0x63 0x20 0x43
```

```
.data 0x53 0x21 0x20 0x43 0x4f 0x4d 0x50 0x20
```

```
.data 0x33 0x30 0x33 0x20 0x72 0x75 0x6c 0x65
```

```
.data 0x73 0x21
```

2. Convert the following C program to MIPS assembler. Assume that the addresses of arrays "a," "b," and "c" are in registers r1, r2 and r3, respectively.

```
int a[20], b[20], c[20];
for(i = 0; i < 20; ++i)
    c[i] = a[i] + b[i];
```

3. Convert the following C program to MIPS assembler. Assume that the variable "ptr" is in register r4, and use the register r5 for variable "sum."

```
struct Element {
    int value;
    struct Element *next;
};
struct Element *ptr;
int sum = 0;

while(ptr != NULL) {
    sum = sum + ptr->value;
    ptr = ptr->next;
}
```