**COMP 3315 PreLab5: Procedure Calls**

**Number and Name:**

1. **Object**: MIPS Procedure call conventions
2. **Procedure**:

Write and run a MIPS algorithms that inputs an array of integers at data segment *arr1* and the code finds the inverse of these integers and stores them in *arr2* and prints *arr2*. (arr2 must be on different memory address)

Try to use procedure (Function) and name it as“*invert”. This procedure* takes a single integer as input and returns the inverse of it. Call invert for each value in *arr1*.

*If you can’t use procedures you can do everything in main.*

**Example**: *arr1*: .word 5, -1, 4, -3

*Output*: -5, 1, -4, 3

*Final arr2: -5, 1, -4, 3*

Write the C code first and then convert it to MIPS code and the output with short comments in the box below.

#include <stdio.h>

int invert(int num) {

if (num != 0) {

return -num;

}

int main() {

int arr1[] = {5, -1, 4, -3};

int arr2[4];

int i;

for (i = 0; i < 4; i++) {

arr2[i] = invert(arr1[i]);

}

printf("arr2: ");

for (i = 0; i < 4; i++) {

printf("%d ", arr2[i]);

}

}